

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: 98.0%

3. CITATION

Authors: S. L. Hicks; J. B. Bussard; D. W. Gledhill

Title: Acute toxicity of propazine to
Selenastrum capricornutum Printz

Study Completion Date: 04/19/95

Laboratory: ABC Laboratories, Inc.

Sponsor: Griffin Corporation

Laboratory Report ID: ABC Laboratory #41962

DP Barcode: D237791

MRID No.: 442873-08

4. REVIEWED BY: Thomas M. Steeger, Fishery Biologist, EFED,
 ERBIV

Signature: *Thomas M Steeger*

Date: 10/2/97

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

Signature: *N. E. Federoff*

Date: 10/9/97

6. STUDY PARAMETERS

Scientific Name of Test Organism: *Selenastrum capricornutum*

Definitive Test Duration: 120 hours

Type of Concentrations: Mean measured/Nominal

7. CONCLUSIONS: This study is scientifically sound and does fulfill the 123-2(A) guideline requirements for acute toxicity tests for algae. The 120-hr EC₅₀ was estimated to be 0.029 mg/L. After 120 hours, the no-observed effect concentration was 0.012 mg/L based on the absence of a growth inhibition effect.

Results Synopsis

EC₅₀: 0.029 ppm ai

95% C.I.: 0.019 - 0.038 ppm ai

NOEL: 0.012 ppm ai

Slope: 2.22

8. ADEQUACY OF THE STUDY

A. Classification: Core

B. Rationale: Methodology was consistent with FIFRA



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A. Classification: Core

B. Rationale: Methodology was consistent with FIFRA guidelines; data are well presented and verifiable.

C. Repairability:

9. GUIDELINE DEVIATIONS

1.

2. (etc.)

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>Selenastrum capricornutum</i>
<u>Initial Number of Cells</u> 3,000 - 10,000 cells/ml	2.6×10^3 cells/ml
<u>Nutrients</u> Standard formula, e.g. 20XAAP	macronutrient stock solution/micronutrient stock solution recipes given

B. Test System

Guideline Criteria	Reported Information
<u>Solvent</u>	dimethylformamide (DMF)
<u>Temperature</u> Skeletonema: 20°C Others: 24-25°C	$24 \pm 2^\circ\text{C}$
<u>Light Intensity</u> Anabaena: 2.2 K lux (+15%) Others: 4.3 K lux (+15%)	$4,310 \pm 650$ Lux

Guideline Criteria	Reported Information
<u>Photoperiod</u> Skeletonema: 14 h light, 10 h dark or 16 h light, 8 h dark Others: Continuous	Continuous
<u>pH</u> Skeletonema: approx. 8.0 Others: approx. 7.5	Range: 7.2 - 8.7

C. Test Design

Guideline Criteria	Reported Information
<u>Dose range</u> 2X or 3X progression	(2X progression)
<u>Doses</u> at least 5	0.013, 0.025, 0.050, 0.10, and 0.20 mg/L
<u>Controls</u> negative and/or solvent	Control and vehicle blank (DMF)
<u>Replicates per dose</u> 3 or more (4 or more for Navicula)	triplicate
<u>Duration of test</u> 120 hours	120 hours
Daily observations were made?	Yes
<u>Method of Observations</u>	Cellular counts (hematocytometer and an 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

Guideline Criteria	Reported Information
Initial and 120 h cell densities were measured?	Yes (Initial cell counts performed only on the control and vehicle blank replicates)
Control cell count at 120 hr \geq 2X initial count?	Yes (846X)
Initial chemical concentrations measured? (Optional)	Yes
Raw data included?	Yes

Dose Response

Dose (mg ai/L)	Cell Density ($\times 10^4$ cells/ml)	% Inhibition	120-Hour pH
Control	220	--	8.1
Solvent Control	280	--	8.7
0.012	280	0.0	8.1
0.022	110	50	7.8
0.044	74	66.0	7.8
0.090	58	73.6	8.0
0.180	5.7	97.4	7.5

Other Significant Results:Statistical Results

Statistical Method: ANOVA (Proc GLM); multiple means comparison test (Dunnett's)

EC₅₀: 0.029 ppm 95% C.I.: 0.019 - 0.038 ppm

Slope: 2.22 NOEC: 0.012 ppm

13. Verification of Statistical Results

Statistical Method: TOXANAL (PROBIT METHOD ITERATIONS)

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EC₅₀: 0.021 ppm

95% C.I.: _____ - _____ ppm

Slope: 2.48

NOEC: 0.012 ppm

Adjusted for active ingredient: All results based on the mean measured test concentrations.

EC₅₀: 0.029 ppm ai

95% C.I.: 0.019-0.038 ppm ai

NOEC: 0.012 ppm ai

14. REVIEWER'S COMMENTS: