

US EPA ARCHIVE DOCUMENT

DATA EVALUATION RECORD

1. CHEMICAL: Paclobutrazol
2. FORMULATION: PP 333, Technical; 92.4% a.i.
3. CITATION: Hill, R.W. 1982. PP 333: Determination of the acute toxicity to Bluegill Sunfish (Lepomis macrochirus). Submitted by ICI Americas, Inc., Wilmington, Del.; under Reg. No. 10182-TT, Accession No. 248689.
4. REVIEWED BY: John J. Bascietto
Wildlife Biologist
EEB/HED
5. DATE REVIEWED: 1-20-83
6. TEST TYPE: 96-hr. LC₅₀ - Freshwater Fish
A.) Test Species: Bluegill sunfish (Lepomis macrochirus)
7. REPORTED RESULTS: LC₅₀ values (mg/l PP 333)

<u>24-HR</u>	<u>48-HR</u>	<u>72-HR</u>	<u>96-HR</u>
27.5	26.1	26.1	23.6
*(24.6-30.8)	** (23.9-28.4)	** (23.8-28.4)	** (20.4-26.0)
* 99.8% c.i.			
** 95% c.i.			

8. REVIEWER'S CONCLUSIONS: The study is scientifically sound and with an LC₅₀ = 23.6 (20.4-26.0) mg/l, PP 333 is considered "slightly toxic" to Bluegill sunfish. The study fulfills the requirement for a 96-hr LC₅₀ on a warmwater fish species.

9. Materials/Methods

A. Test Procedure: the test was conducted using procedures which were in substantial agreement with the recommendations of the EPA guidelines. Deviations from recommended protocols included:

- aeration of the test vessels during exposure.
- daily changes of the test solutions
- use of tap water in test vessels

B. Statistical Analysis: by Finney probit method (1971) for 48, 72 and 96-hr LC₅₀; by Stephan's (1971) LC₅₀ methods for 24-hr LC₅₀ because there was no partial response at any concentration at 24 Hrs.

10. Results

Nominal conc. PP 333 (mg/l) (PPM)	Mean measured conc. PP 333 (mg/l)	% mortality			
		24-HR	48-HR	72-HR	96-HR
32	30.8	100	100	100	100
24	24.6	0	20	20	60
18	17.3	0	0	0	0
10	10.2	0	0	0	0
5.6	6.2	0	0	0	0
DMSO solvent control	-	0	0	0	0
Freshwater-control	-	0	0	0	0

Ten fish were exposed in each test concentration and in the freshwater controls and solvent controls.

Water chemistry was acceptable within guidelines specifications.

Results of laboratory analysis of actual toxicant concentrations providing exposures are indicated in the above table as "mean measured conc. PP. 333 (mg/l)".

11. Reviewer's Evaluation

A. Test procedure: the deviations from recommended protocol are acceptable because -

- aeration and daily changes of test solutions are mitigated by the analytical determinations of PP 333 in the test vessels
- use of tap water - it was "soft" by EPA criteria, and did not result in any control mortality or major toxic symptoms.

B. Statistical Analysis: the analyses conducted are valid and the LC₅₀ and 95% c.i. reported reflect the raw data.

C. Results: The results are valid and acceptable as reported. The material is apparently only "slightly toxic" to bluegills according to EEB's criteria for toxicity.

D. Conclusions

1. Category: Core.
2. Rationale: Guidelines study
3. Repair: N/A