

US EPA ARCHIVE DOCUMENT

1. Chemical: Baquacil
2. Formulation: 20% a.i.
3. Citation: Brown D. (1980) Acute toxicity of Vantocil P[®] to Rainbow Trout (Salmo Gairdneri), Test No. G 184/B, EPA Registration No. 10182-RO Product Name Baquacil, Producer Name ICI Americas Inc. Test by, Imperial Chemical Industries LTD., Brixham Lab., Brixham, Devon.
4. Reviewed By: Curtis Laird
Fishery Biologist
EEB/HED
5. Date Reviewed: Aug. 25, 1980
6. Test Type: Fish acute 96-hour LC50
A. Test Species Rainbow Trout
7. Reported Result:
The 96-hour LC50 is 3.2 mg/l
8. Reviewer Conclusion

The study indicates Baquacil is moderately toxic to rainbow trout. This study does not fulfill the 96-hour acute LC50 requirements for fish. The binominal is not an acceptable statistical method.

Material/Methods

Test Procedures

The protocol generally followed the recommended EPA protocol of April 1975. The concentration for this particular study ranged from 1.0 to 13.0 mg/l.

Statistical Analysis

The ET50 method was used

Discussion/Results

The reported 96-hour LC50 was 3.2 mg/l.

Reviewer's Evaluation

A. Test Procedures

The test procedure complies with the recommended US EPA 1978 protocol, except for statistical and weight.

B. Statistical Analysis

The LC50 value was verified with Stephan's computer program. Binomial shows an approximate LC50 value of 3.2 mg/l, but the moving average and probit method cannot be determined when there is less than two concentrations at which the percent dead is between 0 and 100.

C. Conclusions

1. Category: Invalid

2. Rationale: a) When there are less than two concentrations at which the percent dead is between 0 and 100, neither the moving average nor probit method can give statistically sound results. As outlined in Stephan's (Methods for Acute Toxicity Tests With Fish Microinvertebrates, And Amphibians) of April 1975 states one treatment other than the control must have killed or affected less than 35% of the organisms exposed to it and one treatment must have killed or affected more than 65% of the organisms.
- b) Fish with a mean weight of 16.4 g.
- c) binomical is not an acceptable statistical method.

3. Repairability: Not repairable

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- c. Bionomical is not an acceptable statistica mehtod.

3. Repairability: Not repairable

Rainbow Trout

Moderately toxic
(Binomial Test method)

basic,old,s79lc50
READY.
9000 data 6
9001 data 13,10,7.5,5.6,3.2,1
9002 data 20,20,20,20,20,20
9003 data 20,20,20,20,10,0,0
run

80/08/25. 09.31.42.
BASIC PROGRAM S79LC50

CONC.	NUMBER EXPOSED	NUMBER DEAD	PERCENT DEAD	BINOMIAL PROB. (PERCENT)
13	20	20	100	9.53674E-5
10	20	20	100	9.53674E-5
7.5	20	20	100	9.53674E-5
5.6	20	20	100	9.53674E-5
3.2	20	10	50	58.8099
1	20	0	0	9.53674E-5

THE BINOMIAL TEST SHOWS THAT 1 AND 5.6 CAN BE USED AS STATISTICALLY SOUND CONSERVATIVE 95 PERCENT CONFIDENCE LIMITS SINCE THE ACTUAL CONFIDENCE LEVEL ASSOCIATED WITH THESE LIMITS IS GREATER THAN 95 PERCENT.

AN APPROXIMATE LC50 FOR THIS SET OF DATA IS 3.2

WHEN THERE ARE LESS THAN TWO CONCENTRATIONS AT WHICH THE PERCENT DEAD IS BETWEEN 0 AND 100, NEITHER THE MOVING AVERAGE NOR THE PROBIT METHOD CAN GIVE ANY STATISTICALLY SOUND RESULTS.

SRU 1.263 UNTS.

RUN-COMPLETE.