111801
SHAUGHNESSEY NO.

6
REVIEW NO.

EEB BRANCH REVIEW

DATE: IN 12-9-80 OUT 12-19-80

FILE OR REG. NO. 10182-RO

PETITION OR EXP. PERMIT NO.

DATE DIV. RECEIVED

DATE OF SUBMISSION 8-21-80

DATE SUBMISSION ACCEPTED

TYPE PRODUCT(S): I, D, H, F, N, R, S Sanitizer & Algicide

DATA ACCESSION NO(S).

PRODUCT MANAGER NO. A. Castillo

PRODUCT NAME(S) Baquacil

COMPANY NAME ICI Americas

SUBMISSION PURPOSE resubmission of data

SHAUGHNESSEY NO.	CHEMICAL, & FORMULATION	% A.I.
111801	Poly(hexamethylene biquanide)	20

100 Pesticide Name

Baquacil

100.3 Submission Purpose

Submission of 48-hour LC50 for Daphnia Magna, 96-hour LC50 for Bluegill Lepomis Macrochirus and 96-hour LC50 for coldwater fish (Rainbow Trout) to update the files.

101. Chemical and Physical Properties

101.1 Chemical

Poly(iminoimidocarbonyiminoimicarbonyimino-hexamethylene)

101.2 Common Name

Baquacil

103 Toxicological Properties

48-hour LC50 for Daphnia Magna, 96-hour LC50 for Bluegill Lepomis Macrochirus and 96-hour LC50 for Rainbow Trout Salmo gairdneri.

105 Conclusion

The 48-hour aquatic invertebratic study was scientifically sound and with an LC50 of 0.18 ppm. This study fulfilled the guideline requirements as of Nov. 21, 1980.

The 96-hour LC50 study for a warmwater fish (Blue gill) does not fulfill the guideline requirements in support of registration: 21% DO after 48-hour exposure to baquacil. The question is not aeration nor whether some fish can survive at 17-21% saturation dissolved oxygen, but whether tests are in question because reasonable standards for testing were not maintained. ASTM and EPA laboratories support standards that include maintenance of dissolved oxygen levels greater than 17-21% in-order to assure fish are not in stress and to show that the test laboratory is not suspect in maintaining healthy test populations. Low DO in control fish suggests proper conditions may not have been maintained at the test laboratory.

ASTM 11.2.1 states for static tests the dissolved oxygen concentration in each test chamber should be between 60% and 100% saturation during the first 48 hour of the test and should be between 40% and 100% saturation after 48 hour. If it is necessary to aerate, ASTM 11.2.2 states test solutions may be gently aerated during static tests if the concentration of the toxicant in the aerated test chamber at the end of the test is not more than 20% lower than that in a comparable unaerated test chamber.

The 96-hour LC50 for a coldwater fish (Rainbow Trout Salmo gairdneri) does not fulfill the guideline requirements in support of registration for the following reasons:

a) should do LC50, not LT50
b) dosage dilution series should be geometrically progressive to obtain equal log spacing. Every dosage should be at least 80% of next highest dosage.
c) it is advisable to obtain data with at least two partial kills inorder to obtain accurate results.
d) toxic symptoms were not reported

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