

US EPA ARCHIVE DOCUMENT

113501

12-22-78

STUDY VALIDATION

Data Review Number: ES-F-1

Test: Fish Acute 96-hr LC<sub>50</sub> (warmwater)

Species: Bluegill (Lepomis macrochirus)

Results: 96-hr LC<sub>50</sub> = 150 mg/l a.i. (Technical)  
95% confidence interval = 130-170 mg/l  
NEL reported as 90 mg/l

Chemical: CGA-48988 technical (94.4% a.i.)  
(Ridomil)

Title: Acute Toxicity of CGA-48988 Technical to Bluegill (Lepomis macrochirus). Report # BW-78-12-381

Accession No: 236854

Study Date: 18-22 December 1978

Researcher: Robert J. Buccafusco, EG&G Bionomics  
Aquatic Toxicology Laboratory.

Registrant: CIBA-GEIGY Corporation

Validation Category: Core

Study Abstract:

The researcher used acceptable protocol throughout the study. Study protocol was patterned after the protocol published by EPA (EPA-660/3-75-009) in April 1975. The water temperature ( $22 \pm 1^{\circ}\text{C}$ ) and pH were monitored regularly and found within acceptable limits. Ten fish were used per dose level. Each dose was maintained in a 19.6 l glass jar containing 15 l of test solution. Acetone was used as a solvent with a maximum of 7.5 ml used at the highest level.

The test had three major problems. A surface film was reported on all test containers indicating a possible problem with the dissolution of the chemical.

Undissolved chemical was reported to be present at the two highest concentrations (195 and 220 mg/l). DO concentrations below 40% saturation were reported. Each of these normally indicate problems of one kind or another. The solubility problem cannot be avoided with the test protocols now available thus part of the justification for the core validation is the 11/21/78 memo by C. Bushong. The DO problem is looked upon as placing a greater stress on the fish thereby lowering the  $LC_{50}$  value.

The reasons for justifying a reassessment to core are:

1. The internal memo dated 11/21/78 regarding the accepting of aquatic bioassays when technicals are insoluble.
2. Concentrations with no mortality were observed above the new guideline cut-off levels (100 mg/l).
3. No mortality was observed at 130 mg/l while the fish showed signs of physiological stress.
4. The toxicity values of other aquatic tests indicate there is not an immediate concern.