9/8/82

(10-30)

DATA EVALUATION RECORD PAGE 1 OF

CASE GS[illegible] NALED

PM 110 12/22/81

CHEM 034401 Naled (1,2-dibromo-2,2-dichloroethyl d

BRANCH EEB DISC 4 TOPIC S 51547

FORMULATION 15 = 5 LIQUID CONCENTRATE

FICHE/MASTER ID 00062358 CONTENT CAT 1

Kelley, F.J., Jr. (197?) A Field Test of the Effects of 4 and 8 oz/Acre Concentrations of Dibrom 14 Concentrate(Naled) Applied from the Air on Estuarine Animals. (Unpublished study received Jan 2, 1971 under 239-1721; submitted by Chevron Chemical Co., Richmond, Calif.; CDL:[illegible]1375-E)

SUBST. CLASS = S.

OTHER SUBJECT DESCRIPTORS
SEC: EEB #4 = S 51547

DIRECT RVW TIME = (MD) START DATE END DATE

REVIEWED BY: Kyle Barbehenn
TITLE: Wildlife Biologist
ORG: HED/EEB
LOC/TEL: CM2-1121/557-1121

SIGNATURE: [signature] DATE: 9/8/82

APPROVED BY:
TITLE:
ORG:
LOC/TEL:

SIGNATURE: DATE:

See previous review by Balcomb 4/23/79

BEST AVAILABLE COPY

SC#	CHEMICAL NAME	Richard Balcomb	4/27/
	Dibrom	Test Type: Simulated field test	
		Test ID.# ES-BB	

CITATION: Kelley, B. J. Jr., A Field Test of the Effects of 4 and 6 oz./Acre Concentrations of Dibrom 14 Concentrate (Naled) Applied from the Air on Estuarine Animals.

VALIDATION CATEGORY: Supplemental

RESULTS: "1. A field study has been made of the effects of aerial application of 4 and 6 oz/acre concentrations of Dibrom 14 on several aquatic estuarine animals.

2. Because the test represents a single repetition, a statistical comparison of results cannot be made.

3. By inspection of the data, it seems probable that 6 oz/acre concentrations can not be used without harm to non-target organisms." p.6

VALIDATION CATEGORY RATIONALE: The tests assess the effects of an exposur of only one hour and as such have somewhat limited general applicabil The experimenter applied no statistical tests to his data but believe the data showed significant differences between controls and test or- ganisms. This reviewer applied a non-parametric test (Friedman's test for randomized blocks) and found no significant treatment effec ($X^2 = 3.105$, $X^2(0.05) = 5.99$)*. The experiment is not scientifica unsound, however, the data can only be said to suggest an acute toxi effect to test animals.

* This is the "worst case" situation; i.e., the killifish data, which had control mortality, were eliminated.

REPAIRABILITY: N/A

TEST DETAILS:

Species	% Mortality 6oz.	% Mortality 4oz.	Control	No. animals at s (Aug)	star
White shrimp	15	21	0	20	P. setiferus
Hardback shrimp	15	4	0	25	Palaeomonetes
Killifish	5	5	25	20	F. heteroditus
Blue crabs	25	0	0	12	C. sapidus

The test animals were netted in estuarine habitat near Charleston, S Carolina. In the laboratory they were maintained in large, aerated fiberglass tanks and shallow "wading pools" (30% salinity at 23°C).

Simulated field test
Test ID# ES-BB

After acclimatization of 1-14 days the organisms were transported to test site and held in Church Creek in floating cages. Three sites were used with one receiving (aerially) dibrom at the rate of 6 oz/A, another at 4 oz/A and a control receiving no treatment. The animals were permitted a one hour field exposure then returned to laboratory culture tanks. Counts of dead organisms were made at 1, 3, 24, and 48 hours.

Among control animals only killifish suffered mortality during the test. Inspection of preserved specimens indicated the fish may have been suffering from malnutrition. The killifish data were, therefore, eliminated from the Friedman's test discussed previously.