

CASE GS _____

PM ____/____/____

CHEM 105001

TERBUFOS

BRANCH EEB

DISC _____

FORMULATION 15% GranularFICHE/MASTER ID FE0TER05

CITATION: USEPA. 1975. Report on the toxicity of Counter 15G to rainbow trout.
(USEPA, CBIB, Beltsville, Md., Static jar test #909, 12/12/75, unpublished report)

SUBST. CLASS=

OTHER SUBJECT DESCRIPTORS
PRIM:

DIRECT REVIEW TIME= 4 hrs. (MH) START DATE 10/4/82 END DATE 10/27/82

REVIEWED BY: James D. Felkel
TITLE: Wildlife Biologist
ORG: Ecological Effects Branch, Hazard Evaluation Division (TS-769)
LOC./TEL: Crystal Mall #2, Room 1112, 703-557-3113

SIGNATURE:

DATE:

APPROVED BY:

TITLE:

ORG:

LOC./TEL:

SIGNATURE:

DATE:

DATA EVALUATION RECORD

1. Chemical: Terbufos (Shaughnessy No. 105001)
2. Formulation: 15% granular
3. Citation: USEPA 1975. Report on the toxicity of Counter 15G to rainbow trout. (USEPA, CBIB, Beltsville, Md. Static jar test #909, 12/12/75, unpublished report). MRID No. FE0TER05.
4. Reviewed By: James D. Felkel, Wildlife Biologist
Ecological Effects Branch
Hazard Evaluation Division (TS-769)
5. Date Reviewed: October 27, 1982
6. Test Type: Coldwater fish LC₅₀
 - A. Test Species: Rainbow trout (Salmo gairdneri)
7. Reported Results: The 96-hour LC₅₀ is 68 ppb (95% C.L. of 50.19-92.14 ppb).
8. Reviewer's Conclusions:

This study is scientifically sound and with an LC₅₀ of 59.7 (48.1-74.3) ppb indicates that Counter 15G is very highly toxic to rainbow trout. This study, if needed, meets the intent of proposed guidelines (7/10/78) for this formulation.

2

METHOD

Method TSD 1.206 is cited. Acetone was the diluent. Fish were from the Wytheville National Fish Hatchery and had an average weight of 0.5 g. Concentrations of 21-280 ppb, based on total formulation, were tested.

RESULTS

LC₅₀ (with 95% C.L.)

24 hr.	115 (84.55 - 156.41) ppb
48 hr.	76 (59.41 - 97.44) ppb
96 hr.	68 (50.19 - 92.14) ppb

REVIEWER'S ANALYSIS

Methods used are generally consistent with proposed guidelines (7/10/78). EPA computer analysis (attached) indicates a 96-hour LC₅₀ of 59.7(48.1-74.3) ppb (probit method). Counter 15G is thus considered very highly toxic to the rainbow trout.

CONCLUSIONS

1. Category: Core, for this formulation
2. Rationale: Study meets the intent of proposed guidelines for this formulation
3. Repairability: N/A

SCOTT'S CORRECTION CANNOT BE USED WITH THIS DATA SET.

WEEK TERBUFOS RAINBOW TROUT LC50

156

UNC.	NUMBER EXPOSED	NUMBER DEAD	PERCENT DEAD	BINOMIAL PROB.(PERCENT)
230	10	10	100	0.09765625
180	10	10	100	0.09765625
120	10	10	100	0.09765625
75	10	7	70	17.1875
49	10	1	10	1.074219
32	10	2	20	5.46875
21	10	0	0	0.09765625

THE BINOMIAL TEST SHOWS THAT 21 AND 120 CAN BE USED AS STATISTICALLY SOUND CONSERVATIVE 95 PERCENT CONFIDENCE LIMITS, BECAUSE THE ACTUAL CONFIDENCE LEVEL ASSOCIATED WITH THESE LIMITS IS GREATER THAN 95 PERCENT.

AN APPROXIMATE LC50 FOR THIS SET OF DATA IS 65.66659

RESULTS CALCULATED USING THE MOVING AVERAGE METHOD

SPAN	G	LC50	95 PERCENT CONFIDENCE LIMITS
5	0.08969355	59.09649	47.295 73.32025

RESULTS CALCULATED USING THE PROBIT METHOD

ITERATIONS	G	H	GOODNESS OF FIT PROBABILITY
10	0.183792	1	0.3486655

SLOPE = 5.524502

95 PERCENT CONFIDENCE LIMITS = 3.156094 AND 7.892909

LC50 = 59.67161

95 PERCENT CONFIDENCE LIMITS = 48.09107 AND 74.30374

LC10 = 35.14656

95 PERCENT CONFIDENCE LIMITS = 22.02904 AND 44.33835
