

US EPA ARCHIVE DOCUMENT

TDMS

DATA EVALUATION RECORD

PAGE 1 OF

CASE GS _____

PM ____/____/____

CHEM 105001

TERBUFOS

BRANCH EEB

DISC _____

FORMULATION

15% Granular

FICHE/MASTER ID

FE0TER04

CITATION:

USEPA. 1975. Report on the toxicity of Counter 15G to bluegill sunfish.
(USEPA, CBIB, Beltsville, MD., Static jar test #894, 11/7/75, unpublished report)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:

James D. Felkel

DATE:

12/8/82

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 bluegill sunfish. (USEPA, CRIB, Beltsville, Md., Static jar test # 894, 11/7/75, unpublished report). MRID No. FE0TER04.
4. Reviewed By: James D. Felkel, Wildlife Biologist
Ecological Effects Branch
Hazard Evaluation Division (TS-769)
5. Date Reviewed: October 25, 1982
6. Test Type: Warmwater fish - 96-hour LC₅₀
 - A. Test Species: Bluegill sunfish, (Lepomis macrochirus)
7. Reported Results: The 96-hour LC₅₀ is 13.3 ppb (95% C.L. of 10.08-17.56 ppb).
8. Reviewer's Conclusions:

This study is scientifically sound and with an LC₅₀ of 12.3 (9.8-15.2) ppb indicates that Counter 15G is very highly toxic to the bluegill sunfish. This study, if needed, meets the intent of proposed guidelines (7/10/78) for this formulation.

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METHODS

Method TSD 1.206 is cited. Acetone was the diluent. Fish were from the Welaka National Fish Hatchery and had an average weight of 1.98 g. Concentrations of 3.7-75 ppb were tested.

RESULTS

| | <u>LC₅₀ (with 95% confidence limits)</u> |
|----------|---|
| 24 hours | 39.5 (31.9-49.0) ppb |
| 48 hours | 21.0 (15.7-28.1) ppb |
| 96 hours | 13.3 (10.08-17.56) 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 12.3 (9.8-15.2) ppb (probit method). Counter 15G is thus considered very highly toxic to the bluegill sunfish.

CONCLUSIONS

1. Category: Core, for this formulation
2. Rationale: Study meets the intent of proposed guidelines (7/10/78) for this formulation.
3. Repairability: N/A

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FELKEL TERBUFOIS BLUEGILL LC50

15G

| CONC. | NUMBER EXPOSED | NUMBER DEAD | PERCENT DEAD | BINOMIAL PROB.(PERCENT) |
|-------|----------------|-------------|--------------|-------------------------|
| 75 | 10 | 10 | 100 | 0.09765625 |
| 19 | 10 | 10 | 100 | 0.09765625 |
| 32 | 10 | 10 | 100 | 0.09765625 |
| 21 | 10 | 10 | 100 | 0.09765625 |
| 14 | 10 | 4 | 40 | 37.69531 |
| 8.7 | 10 | 2 | 20 | 5.46875 |
| 5.6 | 10 | 1 | 10 | 1.074219 |
| 3.7 | 10 | 0 | 0 | 0.09765625 |

THE BINOMIAL TEST SHOWS THAT 5.6 AND 21 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 14.73863

RESULTS CALCULATED USING THE MOVING AVERAGE METHOD

| SPAN | G | LC50 | 95 PERCENT CONFIDENCE LIMITS |
|------|-----------|----------|------------------------------|
| 6 | 0.1232867 | 11.46946 | 8.522105 14.67209 |

RESULTS CALCULATED USING THE PROBIT METHOD

| ITERATIONS | G | H | GOODNESS OF FIT PROBABILITY |
|------------|-----------|---|-----------------------------|
| 7 | 0.1724719 | 1 | 0.5815557 |

SLOPE = 5.335971
 95 PERCENT CONFIDENCE LIMITS = 3.119956 AND 7.551985

LC50 = 12.25198
 95 PERCENT CONFIDENCE LIMITS = 9.792025 AND 15.23607

LC10 = 7.082705
 95 PERCENT CONFIDENCE LIMITS = 4.40084 AND 9.015407

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