1. **CHEMICAL:** Acetochlor.  
   Shaughnessy Number: 121601.

2. **TEST MATERIAL:**  
   1) Technical acetochlor (ICIA5676); 2-chloro-N-(ethoxymethyl)-N-(2-ethyl-6-methyl-phenylacetamide); Batch P2; 89.4% active ingredient w/w.  
   2) Formulation WF2061; prepared from Technical Batch P2; 68.8% active ingredient w/w.

3. **STUDY TYPE:** Freshwater Invertebrate Static Toxicity Tests.  
   Species Tested: Daphnids (Daphnia magna).


5. **REVIEWED BY:**  
   Rosemary Graham Mora, M.S.  
   Associate Scientist  
   KBN Engineering and Applied Sciences, Inc.

   **Signature:**  
   **Date:** 10/3/91

6. **APPROVED BY:**  
   Pim Kosalwat, Ph.D.  
   Senior Scientist  
   KBN Engineering and Applied Sciences, Inc.

   **Signature:**  
   **Date:** 10/3/91

   **Signature:**  
   **Date:** 1/15/92

7. **CONCLUSIONS:** These studies are scientifically sound and meet the guideline requirements for an acute toxicity study using freshwater invertebrates.

   The 48-hour EC₅₀ of technical acetochlor for Daphnia magna was 8.2 mg a.i./l mean measured concentration, which classifies technical acetochlor as moderately toxic to Daphnia magna. The NOEC for technical acetochlor was 6.4 mg a.i./l mean measured concentration.
The 48-hour EC₅₀ of acetochlor formulation WF2061 for 
*Daphnia magna* was 7.2 mg a.i./l mean measured concentration, 
which classifies acetochlor formulation WF2061 as moderately 
toxic to *Daphnia magna*. The NOEC for acetochlor formulation 
WF2061 was 5.5 mg a.i./l mean measured concentration.

8. **RECOMMENDATIONS:** N/A

9. **BACKGROUND:**

10. **DISCUSSION OF INDIVIDUAL TESTS:** N/A

11. **MATERIALS AND METHODS:**

   A. **Test Animals:** The test organisms (*Daphnia magna, <24 
   hours old*) were obtained from cultures at Jealott's 
   Hill Research Station. The daphnids were maintained in 
   reconstituted water at 20°C on 16 hours of light per 
   day, and fed a diet of yeast and *Chlorella vulgaris*.

   B. **Test System:** The test vessels were covered 250-ml 
   glass beakers containing 200 ml of test solution. The 
   test vessels were held in a water bath at 20°C under 
   fluorescent lighting (700 lux) for 16 hours per day.

   The dilution water was hard reconstituted water 
   prepared by dissolving the given reagents in deionized 
   water.

   C. **Dosage:** Forty-eight-hour static acute test. Two sets 
   of tests (Test I and Test II) were performed using the 
   test materials technical acetochlor and acetochlor 
   formulation WF2061 with the following nominal 
   concentrations: (technical acetochlor only, 0.56 and 
   0.93), 1.6, 2.6, 4.3, 7.2, 12.0, and 20.0 mg a.i./l for 
   Test I; and 1.6, 2.6, 4.3, 7.2, 12.0, 20.0, and 33.0 mg 
   a.i./l for Test II. In addition, a dilution water 
   control was included in each set of tests.

   The highest concentrations were prepared by adding 
   appropriate amounts of test substance to reconstituted 
   water and then serially diluted to prepare lower test 
   concentrations.

   D. **Design:** Two sets of tests were performed using both 
   the technical and formulated test materials.
Ten daphnids were added to each triplicate vessel of each test concentration and control. The daphnids were not fed during the test.

The effect (immobilization) of the test material to the daphnids was assessed at 3, 9, 24, and 48 hours during the study.

Dissolved oxygen concentration and pH were measured at 0 and 48 hours. The temperature of the water bath was measured at each assessment time using a min/max thermometer.

Chemical analysis of each concentration was determined using high pressure liquid chromatography on samples collected at test initiation and at 48 hours.

E. **Statistics:** The EC₅₀ values were calculated using "the technique of iteratively reweighted least squares of probit response on log₁₀ (concentration). A combined EC₅₀ from both tests was calculated by taking a weighted average of the individual log EC₅₀ with weight given by the inverse of the estimated variance of the log EC₅₀."

The no observed effects level (NOEL) for each test was calculated "by contrasting the effect at each dose with the effect in the control group using a pooled estimate of error variance from a one-way analysis of variance."

12. **REPORTED RESULTS:** Measured concentrations are given in Table 1 (attached). These mean measurements represent 79-93% of nominal concentrations of technical acetochlor, and 110-132% of nominal concentrations of acetochlor formulation WF2061. All values reported in this section are based on mean measured concentrations.

In Test I, 73-100% immobility was observed in the two highest test concentrations (10.3 and 16.6 mg a.i./l) of technical acetochlor; 0-3% immobility was observed in the remaining test concentrations (Table 4, attached). In Test II, 97-100% immobility was observed in the three highest test concentrations (10.9-29.1 mg a.i./l) of technical acetochlor; 0-7% immobility was observed in the remaining test concentrations (1.42-6.42 mg a.i./l) (Table 5, attached).

The 48-hour EC₅₀ values (95% confidence interval) for *Daphnia magna* exposed to technical acetochlor in Tests I and
II were 9.0 (8.2-9.9) mg a.i./l and 8.1 (7.5-9.0) mg a.i./l, respectively (Table 2, attached). The NOELs for Tests I and II were 6.1 and 6.4 mg a.i./L, respectively.

In Test I, 73-100% immobility was observed in the three highest test concentrations (8.63-22.1 mg a.i./l) of acetochlor formulation WF2061; 0-7% immobility was observed in the remaining test concentrations (Table 6, attached). In Test II, 100% immobility was observed in the three highest test concentrations (15-39.4 mg a.i./l) of acetochlor formulation WF2061; 0-23% immobility was observed in the remaining test concentrations (1.92-8.66 mg a.i./l) (Table 7, attached).

The 48-hour EC₅₀ values (95% confidence interval) for Daphnia magna exposed to acetochlor formulation WF2061 in Tests I and II were 7.4 (6.7-8.1) mg a.i./l and 9.6 (9.0-13.0) mg a.i./l, respectively (Table 2, attached). The NOELs for Tests I and II were 3.1 and 5.5 mg a.i./L, respectively.

During these tests, the pH ranged from 8.1 to 8.3, the temperature ranged from 20-21°C, and the dissolved oxygen concentration ranged from 8.1 to 8.8 mg/l.

13. STUDY AUTHOR'S CONCLUSIONS/QUALITY ASSURANCE MEASURES:
The authors made no conclusions in the report.

A GLP compliance statement, signed by the study director and head of department, was included in the report indicating that the study conducted in accordance with the principles of Good Laboratory Practice of the United Kingdom Department of Health Compliance programme (1989). A Quality Assurance Statement was also included in the report and signed by a quality assurance officer.

14. REVIEWER'S DISCUSSION AND INTERPRETATION OF STUDY RESULTS:

A. Test Procedure: The test procedures were generally in accordance with the guidelines and the protocols recommended by the guidelines, except for the following deviations:

The report did not indicate that the reconstituted water was aged one or two weeks prior to test initiation, and intensely aerated prior to use as recommended. However, this is acceptable because the report showed dissolved oxygen concentration to be ≥8.1 mg/l.
The hardness, alkalinity, and conductivity of the dilution water was not reported, as recommended by ASTM (1980).

The test temperature was monitored at each observation period with a min/max thermometer, not every six hours as recommended for a system controlled by a water bath.

The length of time between solution preparation and test initiation was not reported.

No observations of pretest mortality or health of the source culture(s) were given in the report.

First instar test organisms should be from the fourth or later broods of a given parent. The author did not indicate which brood was the source of the test animals.

The recommended photoperiod for a freshwater invertebrates acute toxicity study is 16-hour light/8-hour dark with 15- to 30-minute transitions. Transition periods were not used in the study.

The report did not indicate whether the daphnids were randomly assigned to the test chambers as required by the SEP.

B. Statistical Analysis: For acetochlor formulation WF2061 Tests I and II, and for technical acetochlor Test I, EPA's Toxanal computer program was used to verify the EC₅₀ values and 95% confidence intervals presented by the authors. The EMSL computer program for probit analysis was used to determine the EC₅₀ value for technical acetochlor Test II. The data from this test (Test II of technical acetochlor) could not be analyzed using Toxanal (program aborted). The reviewer's EC₅₀ values and 95% confidence intervals are similar to those of the authors (printouts, attached). However, the reviewer does not accept the weighted average EC₅₀ presented by the authors. The lowest EC₅₀ value of the two tests performed for each test substance is accepted as the EC₅₀ value for that test material.
C. **Discussion/Results:** The deviations listed above probably did not affect the results of these tests. These studies are scientifically sound and meet the guideline requirements for an acute static toxicity study using freshwater invertebrates.

The 48-hour EC$_{50}$ of technical acetochlor for *Daphnia magna* was 8.2 mg a.i./l mean measured concentrations, which classifies technical acetochlor as moderately toxic to *Daphnia magna*. The NOEC for technical acetochlor was 6.4 mg a.i./l based on mean measured concentrations.

The 48-hour EC$_{50}$ of acetochlor formulation WF2061 for *Daphnia magna* was 7.2 mg a.i./l mean measured concentrations, which classifies acetochlor formulation WF2061 as moderately toxic to *Daphnia magna*. The NOEC for acetochlor formulation WF2061 was 5.5 mg a.i./l based on mean measured concentrations.

D. **Adequacy of the Study:**

1. **Classification:** Core.
2. **Rationale:** N/A.
3. **Repairability:** N/A.

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<th>Measured Concentrations (mg ai 1⁻¹)</th>
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<th>48 hour</th>
<th>Mean\textsuperscript{b}</th>
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<td>42.5</td>
<td>39.4(119)</td>
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<td>22.3</td>
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<td>23.4(117)</td>
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<td>1.95</td>
<td>1.92(120)</td>
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</tr>
</tbody>
</table>

\textsuperscript{a} Limit of determination under the conditions used.

\textsuperscript{b} Figures in brackets are percentage of nominal concentrations.

\textsuperscript{c} Common controls were used for the technical and formulated materials.
### Table 2: Toxicity of Technical Acetochlor to First Instar *Daphnia magna* Based on Mean Measured Concentration

<table>
<thead>
<tr>
<th>Test</th>
<th>EC$_{50}$ Values (mg ai l$^{-1}$)</th>
<th>48 hour NOEL (mg ai l$^{-1}$)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3 hour</td>
<td>9 hour</td>
</tr>
<tr>
<td>I</td>
<td>&gt;16.6</td>
<td>&gt;16.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>&gt;29.1</td>
<td>36</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td>(30-∞)</td>
</tr>
<tr>
<td>I + II</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*a* (Figures in brackets are 95% confidence limits)

### Table 3: Toxicity of Acetochlor Formulation WF 2061 to First Instar *Daphnia magna* Based on Mean Measured Concentration

<table>
<thead>
<tr>
<th>Test</th>
<th>EC$_{50}$ Values (mg ai l$^{-1}$)</th>
<th>48 hour NOEL (mg ai l$^{-1}$)</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>3 hour</td>
<td>9 hour</td>
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<tr>
<td>I</td>
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<td>&gt;22.1</td>
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<tr>
<td>II</td>
<td>36</td>
<td>33</td>
</tr>
<tr>
<td>Mean</td>
<td>(3-39)</td>
<td>(18-36)</td>
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<tr>
<td>I + II</td>
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</table>

*a* (Figures in brackets are 95% confidence limits)
APPENDIX: Biological Results, Dissolved Oxygen, pH and Temperature

TABLE 4: Toxicity of Technical Acetochlor to First Instar *Daphnia magna* and Dissolved Oxygen, pH and Temperature Readings

No: of *Daphnia* affected (10 *Daphnia* per replicate)

<table>
<thead>
<tr>
<th>Nominal Concentration (mg ai l⁻¹)</th>
<th>Test I - 13th February 1989</th>
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<tbody>
<tr>
<td></td>
<td>3 hour</td>
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<tr>
<td></td>
<td>a b c</td>
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<tr>
<td>20 16.6</td>
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<td>12 10.3</td>
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<td>1.6 1.32</td>
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<td>0.93 0.7c</td>
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<td>0.56 0.44</td>
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<tr>
<td>Control</td>
<td>0 0 0</td>
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</table>

Temperature of Water Bath (a) | 20°C | 20-21°C | 20-21°C | 20-21°C |

(a) Range is given for the period prior to reading; and maximum-minimum thermometer was reset after each reading. Temperature at 0 hours was 20°C
APPENDIX: Biological Results, Dissolved Oxygen, pH and Temperature

TABLE 5: Toxicity of Technical Acetochlor to First Instar Daphnia magna and Dissolved Oxygen, pH and Temperature Readings

No: of Daphnia affected (10 Daphnia per replicate)

<table>
<thead>
<tr>
<th>Nominal Concentration (mg ai l⁻¹)</th>
<th>Measured</th>
<th>3 hour</th>
<th>9 hour</th>
<th>24 hour</th>
<th>48 hour</th>
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<td></td>
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<td>b</td>
<td>c</td>
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<td>c</td>
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<td>0</td>
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</table>

| Temperature of Water Bath (a)     | 20°C      | 20-20.5°C | 20-21°C | 20-21°C |

(a) Range is given for the period prior to reading; and maximum-minimum thermometer was reset after each reading. Temperature at 0 hours was 20°C.
APPENDIX: Biological Results, Dissolved Oxygen, pH and Temperature

TABLE 6: Toxicity of Acetochlor Formulation WF 2061 to First Instar *Daphnia magna* and Dissolved Oxygen, pH and Temperature Readings

No: of *Daphnia* affected (10 *Daphnia* per replicate)

<table>
<thead>
<tr>
<th>Nominal Concentration (mg ai l⁻¹)</th>
<th>3 hour</th>
<th>9 hour</th>
<th>24 hour</th>
<th>48 hour</th>
<th>pH</th>
<th>Dissolved Oxygen (mg l⁻¹)</th>
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<td>a b c</td>
<td>a b c</td>
<td>a b c</td>
<td>a b c</td>
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<td>48hr</td>
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<td>0 0 0</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>8.3</td>
<td>8.2</td>
</tr>
<tr>
<td>1.6 0.2</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>8.3</td>
<td>8.1</td>
</tr>
<tr>
<td>Control</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>8.3</td>
<td>8.1</td>
</tr>
</tbody>
</table>

Temperature of Water Bath (°C) | 20°C | 20-21°C | 20-21°C | 20-21°C

(a) Range is given for the period prior to reading; and maximum-minimum thermometer was reset after each reading. Temperature at 0 hours was 20°C.
### APPENDIX: Biological Results, Dissolved Oxygen, pH and Temperature

#### TABLE 7: Toxicity of Acetochlor Formulation WF 2061 to First Instar *Daphnia magna* and Dissolved Oxygen, pH and Temperature Readings

No of *Daphnia* affected (10 *Daphnia* per replicate)

<table>
<thead>
<tr>
<th>Nominal Concentration (mg ai l⁻¹)</th>
<th>Test II - 17th February 1989</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3 hour</td>
<td>9 hour</td>
<td>24 hour</td>
<td>48 hour</td>
</tr>
<tr>
<td></td>
<td>a b c</td>
<td>a b c</td>
<td>a b c</td>
<td>a b c</td>
</tr>
<tr>
<td>33 39.4</td>
<td>7 8 7</td>
<td>9 9 10</td>
<td>10 10 10</td>
<td>10 10 10</td>
</tr>
<tr>
<td>20 23.4</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>10 10 10</td>
<td>10 10 10</td>
</tr>
<tr>
<td>12 15.0</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>10 10 10</td>
<td>10 10 10</td>
</tr>
<tr>
<td>7.2 8.4</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>10 10 10</td>
<td>10 10 10</td>
</tr>
<tr>
<td>4.3 5.4</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>10 10 10</td>
<td>10 10 10</td>
</tr>
<tr>
<td>2.6 3.4</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>10 10 10</td>
<td>10 10 10</td>
</tr>
<tr>
<td>1.6 1.9</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>10 10 10</td>
<td>10 10 10</td>
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<tr>
<td>Control</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>0 0 0</td>
<td>0 0 0</td>
</tr>
</tbody>
</table>

| Temperature of Water Bath (a)    | 20°C  | 20-20.5°C | 20-21°C | 20-21°C        |

(a) Range is given for the period prior to reading; and maximum-minimum thermometer was reset after each reading. Temperature at 0 hours was 20°C
<table>
<thead>
<tr>
<th>CONC.</th>
<th>NUMBER EXPOSED</th>
<th>NUMBER DEAD</th>
<th>PERCENT DEAD</th>
<th>BINOMIAL PROB.(PERCENT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>30</td>
<td>30</td>
<td>100</td>
<td>9.313227E-08</td>
</tr>
<tr>
<td>10.3</td>
<td>30</td>
<td>22</td>
<td>73.33334</td>
<td>.8062402</td>
</tr>
<tr>
<td>6.09</td>
<td>30</td>
<td>1</td>
<td>3.333334</td>
<td>2.8871E-06</td>
</tr>
<tr>
<td>3.85</td>
<td>30</td>
<td>0</td>
<td>0</td>
<td>9.313227E-08</td>
</tr>
<tr>
<td>2.24</td>
<td>30</td>
<td>0</td>
<td>0</td>
<td>9.313227E-08</td>
</tr>
<tr>
<td>1.32</td>
<td>30</td>
<td>0</td>
<td>0</td>
<td>9.313227E-08</td>
</tr>
<tr>
<td>.77</td>
<td>30</td>
<td>0</td>
<td>0</td>
<td>9.313227E-08</td>
</tr>
<tr>
<td>.44</td>
<td>30</td>
<td>0</td>
<td>0</td>
<td>9.313227E-08</td>
</tr>
</tbody>
</table>

THE BINOMIAL TEST SHOWS THAT 6.09 AND 10.3 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 8.831817

RESULTS CALCULATED USING THE MOVING AVERAGE METHOD

<table>
<thead>
<tr>
<th>SPAN</th>
<th>G</th>
<th>LC50</th>
<th>95 PERCENT CONFIDENCE LIMITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>.0325853</td>
<td>9.344828</td>
<td>8.363845 AND 10.5336</td>
</tr>
</tbody>
</table>

RESULTS CALCULATED USING THE PROBIT METHOD

<table>
<thead>
<tr>
<th>ITERATIONS</th>
<th>G</th>
<th>H</th>
<th>GOODNESS OF FIT PROBABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>.1565914</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

SLOPE = 10.79161
95 PERCENT CONFIDENCE LIMITS = 6.521192 AND 15.06202

LC50 = 9.014728
95 PERCENT CONFIDENCE LIMITS = 8.158513 AND 9.922194

LC10 = 6.874935
95 PERCENT CONFIDENCE LIMITS = 5.536432 AND 7.68991
EPA PROBIT ANALYSIS PROGRAM
USED FOR CALCULATING EC VALUES
Version 1.4

ACETOCHLOR/DAPHNIA MAGNA

<table>
<thead>
<tr>
<th>Conc. Exposed</th>
<th>Number Exposed</th>
<th>Number Resp.</th>
<th>Observed Proportion</th>
<th>Adjusted Proportion</th>
<th>Predicted Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.4200</td>
<td>30</td>
<td>0</td>
<td>0.0000</td>
<td>0.0000</td>
<td>0.0000</td>
</tr>
<tr>
<td>2.4300</td>
<td>30</td>
<td>0</td>
<td>0.0000</td>
<td>0.0000</td>
<td>0.0000</td>
</tr>
<tr>
<td>3.8700</td>
<td>30</td>
<td>0</td>
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<td>0.0000</td>
<td>0.0000</td>
</tr>
<tr>
<td>6.4200</td>
<td>30</td>
<td>2</td>
<td>0.0667</td>
<td>0.0667</td>
<td>0.0667</td>
</tr>
<tr>
<td>10.9000</td>
<td>30</td>
<td>29</td>
<td>0.9667</td>
<td>0.9667</td>
<td>0.9667</td>
</tr>
<tr>
<td>17.9000</td>
<td>30</td>
<td>30</td>
<td>1.0000</td>
<td>1.0000</td>
<td>1.0000</td>
</tr>
<tr>
<td>29.1000</td>
<td>30</td>
<td>30</td>
<td>1.0000</td>
<td>1.0000</td>
<td>1.0000</td>
</tr>
</tbody>
</table>

Chi-Square Heterogeneity = -0.000

\[ \mu = 0.911010 \]
\[ \sigma = 0.068930 \]

Parameter Estimate Std. Err. 95% Confidence Limits

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Estimate</th>
<th>Std. Err.</th>
<th>95% Confidence Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-8.216419</td>
<td>2.219743</td>
<td>(-12.567116, -3.865723)</td>
</tr>
<tr>
<td>Slope</td>
<td>14.507443</td>
<td>2.455727</td>
<td>(9.694217, 19.320667)</td>
</tr>
</tbody>
</table>

Theoretical Spontaneous Response Rate = 0.0000

ACETOCHLOR/DAPHNIA MAGNA

Estimated EC Values and Confidence Limits

<table>
<thead>
<tr>
<th>Point</th>
<th>Conc.</th>
<th>Lower 95% Confidence Limits</th>
<th>Upper 95% Confidence Limits</th>
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</thead>
<tbody>
<tr>
<td>EC 1.00</td>
<td>5.6319</td>
<td>4.6267</td>
<td>6.3075</td>
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<tr>
<td>EC 5.00</td>
<td>6.2752</td>
<td>5.3859</td>
<td>6.9092</td>
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<tr>
<td>EC10.00</td>
<td>6.6477</td>
<td>5.8251</td>
<td>7.2721</td>
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<tr>
<td>EC15.00</td>
<td>6.9115</td>
<td>6.1323</td>
<td>7.5393</td>
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<tr>
<td>EC50.00</td>
<td>8.1472</td>
<td>7.4641</td>
<td>8.9464</td>
</tr>
<tr>
<td>EC85.00</td>
<td>9.6039</td>
<td>8.7563</td>
<td>11.0595</td>
</tr>
<tr>
<td>EC90.00</td>
<td>9.9851</td>
<td>9.0601</td>
<td>11.6656</td>
</tr>
<tr>
<td>EC95.00</td>
<td>10.5777</td>
<td>9.5150</td>
<td>12.6447</td>
</tr>
<tr>
<td>EC99.00</td>
<td>11.7859</td>
<td>10.3965</td>
<td>14.7567</td>
</tr>
</tbody>
</table>
CONC. NUMBER NUMBER PERCENT BINOMIAL
EXPOSED DEAD DEAD PROB.(PERCENT)
22.1  30  30  100  9.313227E-08
14.2  30  30  100  9.313227E-08
8.63  30  22  73.3334  .8062402
5.11  30  2  6.666667  4.339964E-05
3.08  30  0  0  9.313227E-08
1.83  30  0  0  9.313227E-08

THE BINOMIAL TEST SHOWS THAT 5.11 AND 8.63 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 7.298658

RESULTS CALCULATED USING THE MOVING AVERAGE METHOD
SPAN G LC50 95 PERCENT CONFIDENCE LIMITS
5 3.258529E-02 7.225838 6.312644 8.324101

RESULTS CALCULATED USING THE PROBIT METHOD
ITERATIONS G H GOODNESS OF FIT PROBABILITY
6 .1184818 1 .9980894

SLOPE = 9.645099
95 PERCENT CONFIDENCE LIMITS = 6.325141 AND 12.96506

LC50 = 7.377471
95 PERCENT CONFIDENCE LIMITS = 6.667547 AND 8.142395

LC10 = 5.447967
95 PERCENT CONFIDENCE LIMITS = 4.461721 AND 6.116093

**********************************************************************
THE BINOMIAL TEST SHOWS THAT 8.66 AND 15 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 10.1043

WHEN THERE ARE LESS THAN TWO CONCENTRATIONS AT WHICH THE PERCENT DEAD IS BETWEEN 0 AND 100, NEITHER THE MOVING AVERAGE NOR THE PROBIT METHOD CAN GIVE ANY STATISTICALLY SOUND RESULTS.
Chemical Name: Atrazine

Study/Species/Lab/Chemical
MRID # 48-Hour EC_{50} 89.4

Chemical Results

EC_{50} = 8.2 ppm (7.5 - 8.9) Control Mortality (%) = 0

Species: Daphnia Magna
Solvent Control Mortality (%) = NA

Slope = 14.5 # Animals/Level = 30 Temperature = 20-21°C

Comments: Based on mean measured concentrations of active ingredients

96-Hour LC_{50}

LC_{50} = 95% C.L.

Species:

Slope = # Animals/Level = Temperature =

Lab:

96-Hour Dose Level pp (X Mortality)

MRID #