

US EPA ARCHIVE DOCUMENT

EEB REVIEW

100.0 Submission Purpose and Label Information

100.1 Submission Purpose

The registrant, Mobay Chemical Corporation, provided the following study to support registration of Technical Bayleton:

96-hour Growth Inhibition of Green Algae (Scenedesmus subspicatus) by Triadimefon (Technical).

101.0 Assessment of Data

101.1 Discussion

The study was scientifically conducted and showed that technical triadimefon was toxic to green algae at 0.56 ppm in 96-hours. The 96-hour EC50 for:

- growth of biomass = 0.9 ppm
- algal growth rate = 1.71 ppm

101.4 Data Adequacy

This test was not requested, therefore, it does not fulfill a requirement. However, if an algae growth inhibition study is ever needed, and an acceptable protocol developed, this test may be sufficient.

There are no outstanding data requirements for technical Triadimefon (Bayleton).

103.0 Conclusion

The algae growth inhibition study was considered scientifically sound and may fulfill a requirement if such a study is requested, in the future. There are no outstanding data requirements for technical Triadimefon.

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DATA EVALUATION RECORD

1. Chemical: Bayleton Sha. No: 109901
2. Test Material: Technical Triadimefon 91.5%
3. Study Type: Algae growth Inhibition
4. Study ID: Title: Growth Inhibition of Green Algae
(Scenedesmus subspicatus) by Triadimefon (Technical)

Laboratory: Institute of Environmental Biology

Study No: 89081

Study Sponsor: Mobay Chemical Corporation

Study Location: Acc. # 262751

5. Reviewed By:

Daniel Rieder
Wildlife Biologist
EEB/HED

Signature: *Daniel Rieder*
Date: 10/15/86

6. Approved By:

Norman Cook
Supervisory Biologist
EEB/HED

Signature: *Norman Cook*
Date: 10.21.86

7. Conclusions:

This study is scientifically sound. The 96-hr EC50 determined for the growth of the biomass was 0.90 ppm; the 96-hr EC50 for algal growth rate was 1.71 ppm. The no observeable effect concentration (NOEC) was 0.10 ppm (based on range-finding test). The lowest concentration tested with signs of toxicity was 0.56 ppm.

8. Recommendations: N/A

9. Background: This test was submitted to support registration.
10. Discussion of Individual Test: N/A
11. Materials and Methods

Test Material: 91.5% a.i. triadimefon
Test Concentrations: 0.56, 1.0, 1.8, 3.2, and 5.6 ppm and
an untreated control

Solvent: Water

Test Organisms: Scenedesmus subspicatus, (green algae)

Test Containers: 300 ml narrow-necked Erlenmeyer flasks

Test Solution: Nutrient solutions and deionized filter-sterilized water.

Test Temperature: 23 + 1°C

Lighting: Continuous, 8000 lux

Test Duration: 96-hrs, with cell counts at 24, 48, 72,
and 96 hrs.

Test began: February 4, 1985.

Other test conditions: Test containers were continuously
turned to improve uniformity of
light and prevent sedimentation.

Statistics: The EC50's for the growth of the biomass and
for the algal growth rate were calculated
using a probit analysis by the method of
"maximum likelihood".

12. Reported Results:

See the attached table (1-5) and figures (1-3) showing the results of the algae test. The regression lines have slopes of $S=1.72$ for the growth of the biomass and $S=1.85$ for the algal growth rate (Litchfield and Wilcoxon method).

For triadimefon (tech), the 96-hr EC50 determined for the growth of the biomass was 0.90 ppm; the 96-hr EC50 determined for the algal growth rate was 1.71 ppm. The 96-hr NOEC was 0.1 ppm (based on the range-finding test results). The lowest tested concentration with signs of toxicity was 0.56 ppm.

13. Study Author's Conclusions/Q.A. Measures:

96-hour EC50 (growth of biomass) = 0.9 ppm
96-hour EC50 (growth rate) = 1.71 ppm

14. Reviewer's Discussion and Interpretation of the Study

The study was performed in an acceptable manner, the results show that triadimefon will adversely affect algae in 96-hrs at 0.56 ppm.

The study is categorized as Core.

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