

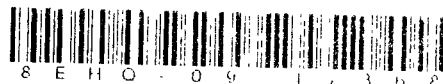
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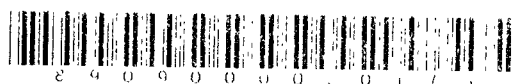
Via Federal Express

Document Processing Center (Mail Code 7407M)
Room 6428
Attention: 8(e) Coordinator
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency, ICC Building
1201 Constitution Ave., NW
Washington, DC 20004



Dear 8(e) Coordinator:

8EHQ-09-17368
Carboxylic Acid



This letter is to inform you of the results of acute toxicity studies in algae, the water flea and rainbow trout with the test substance referenced above.

Pseudokirchneriella subcapitata:

The toxicity of the test substance to the green algae, *Pseudokirchneriella subcapitata*, was determined in a 72-hour, static toxicity test. The study was conducted with a synthetic algal-assay-procedure (AAP) nutrient medium blank control and 4 concentrations of the test substance at a mean lighting intensity of 7410 lux (range of 7290 to 7630 lux), a temperature of 23.8°C, and a shaking speed of 99 rpm. Two replicates were used per blank control and test concentration each with an initial cell count (density) of 10,000 cells/mL. Based on visual observations, the blank control and 0.1, 1, and 10 mg/L test concentration solutions were clear and colorless with no visible precipitate at test start. The 100 mg/L test concentration solution was clear and colorless with precipitate present at test start. All environmental parameters were within acceptable limits during the exposure.

Exposure of algae to nominal concentrations of 0.1, 1, 10, and 100 mg/L of the test substance in AAP nutrient medium resulted in 25, 26, 90, and 98% inhibition, respectively, based on healthy cell count compared to the blank control at the end of 72 hours. Percent inhibition of growth rate was 6, 6, 47, and 79%, respectively. Healthy cell counts increased in the blank control by at least a factor of 16 in 72 hours, thereby satisfying the appropriate test acceptance criteria. Nominal concentrations were used to calculate the EC₅₀ values. The EC₅₀ for healthy cell count and growth rate were 2.1 and 14.7 mg/L, respectively.

Daphnia magna:

The acute toxicity of the test substance to the water flea, *Daphnia magna* (less than 24 hours old) was determined in an unaerated, 48-hour, static test. The study was conducted with 5 concentrations of the test substance and a dilution water control at a mean temperature of 20.2°C (range of 20.1-20.3°C). One test chamber was used per test concentration with 10 test organisms in each chamber. Based on visual observations, the dilution water control and mean measured 0.435, 0.836, and 1.70 mg/L test concentrations were clear and colorless with no visible precipitate at test start. The mean measured 3.47 and 6.60 mg/L test concentrations were clear and colorless with undissolved test substance present at test start. All water quality parameters were within acceptable limits during the exposure.

Exposure of daphnids to the dilution water control and mean, measured test substance concentrations of 0.435, 0.836, 1.70, 3.47, and 6.60 mg/L resulted in 0, 40, 100, 100, 90, and 100% immobility, respectively, at the end of 48 hours. No immobility or sublethal effects were seen in the dilution water control test organisms. The highest mean, measured concentration causing no immobility at test end was less than 0.435 mg/L. The lowest mean, measured concentration causing 100% immobility at test end was

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0.836 mg/L. Mean, measured test substance concentrations were used to calculate the 48-hour EC₅₀ value. The 48-hour EC₅₀ was 0.35 mg/L.

Oncorhynchus mykiss:

The acute toxicity of the test substance to the rainbow trout, *Oncorhynchus mykiss* was determined in an unaerated, 96-hour, static test. The study was conducted with four concentrations of the test substance and a dilution water control at a mean temperature of 12.6°C (range of 12.5-12.7°C). The pH of all test solutions, including the dilution water control, was adjusted to approximately 7.0 with HCl prior to test initiation. One test chamber was used per test concentration with 5 test organisms in each chamber. Based on visual observations, the dilution water control and the 0.1 mg/L test concentration were clear and colorless with no visible precipitate at test start. The 1.0 mg/L test concentration was clear and colorless with undissolved test substance on the water surface at test start. The 10 and 100 mg/L test concentrations were clear and colorless with undissolved test substance on the water surface and the bottom of the test chamber at test start. All water quality parameters were within acceptable limits during the exposure.

Exposure of rainbow trout to the dilution water control and nominal test substance concentrations of 0.1, 1.0, 10, and 100 mg/L resulted in 0, 0, 0, 0, and 100% mortality, respectively, at the end of 96 hours. No mortality or sublethal effects were seen in the dilution water control test organisms. The highest nominal concentration causing no mortality at test end was 10 mg/L. The lowest nominal concentration causing 100% mortality at test end was 100 mg/L. The 96-hour LC₅₀ based on nominal concentrations was 32 mg/L.

Sincerely,