

US EPA ARCHIVE DOCUMENT

(UNOATED)

ADMIRAL WSP

Reg. No. 67064-R *Also 67064-E*

Active Ingredients:

Acid Blue 9 .....68.13%

Acid Yellow ..... 4.51%

Other Ingredients..... 27.36%

The Registrant, Becker-Underwood Inc., submitted three acute toxicity tests on aquatic organisms. I have reviewed the studies outlined below. Although the water hardness in these studies (52 to 68 mg/L) is outside the range given in the Agency's Standardized Evaluation Procedure, I believe the studies are acceptable for the purpose of risk evaluation.

MRID 448876-10 Acute Toxicity to Bluegill Sunfish under Static Conditions (Guideline 72-1)

Mortality of bluegill exposed for 96 hours to Lake Colorant WSP ranged from 0% at 22 mg/L to 100% at test concentrations at 60 mg/L and above. The 96-hour LC 50 was 29.6 mg/L with 95% confidence interval of 22 mg/L to 36 mg/L. Based on the absence of mortality and or observed sublethal effects at 22mg/L this was selected as the NOEAL. The 24hr LC50 was 40.4 mg/L (95% conf 22 mg/L - 60 mg/L), 48 hr LC50 was 33.8 mg/L (22 mg/L to 60.0 mg/L), 72 hr LC50 was 32.2 mg/L (22 mg/L to 60 mg/L). Mortality increased in the 36 mg/L concentration from 3 fish dead at 24 hours to 9 fish dead at 96 hours.

MRID 448876-11 Acute Toxicity to Rainbow Trout under Static Conditions (Guideline 72-1)

Mortality of rainbow trout exposed for 96 hours to Lake Colorant WSP ranged from 0% at 22 mg/L or below to 100% at test concentrations at 36 mg/L and above. The 96-hour LC 50 was 28.1 mg/L with 95% confidence interval of 22 mg/L to 36 mg/L. Based on the absence of mortality and or observed sublethal effects at 22mg/L this was selected as the NOEAL. The 24hr LC50 was 46.5 mg/L (95% conf 36 mg/L - 60 mg/L), 48 hr LC50 was 28.1 mg/L (22 mg/L to 36.0 mg/L), 72 hr LC50 was 28.1 mg/L (22 mg/L to 36 mg/L). Mortality increased in the 36 mg/L concentration from 0 fish dead at 24 hours to 10 fish dead at 48 hours.

MRID 448876-12 Acute Toxicity to Daphnia magna under Static Conditions (72-2)

Mortality (or immobilization) of daphnia exposed for 48 hours to Lake Colorant WSP ranged from 0% at 32 mg/L or below to 100% at test concentrations at 150 mg/L and above. The 48-hour E.C. 50 was 54 mg/L with 95% confidence interval of 32 mg/L to 90 mg/L. Due to mortality in the control and lowest concentration a NOEAL not selected. No mortality or observable sublethal effects were observed at a nominal concentration of 32 mg/kg. The 24hr LC50 was 187 mg/L (95% conf 150 mg/L -250 mg/L), 48 hr LC50 was 54 mg/L (32 mg/L to 90.0 mg/L). Mortality increased in the 54 mg/L concentration from 0 daphnia dead at 24 hours to 10 of 20 daphnia dead at 48 hours.

Chemicals with LC50's in the above ranges are considered to be only slightly toxic to aquatic organisms. According to the label, the concentration of lake Colorant in the water when applied in accordance with the label is 1 to 2 ppm which would not pose an unacceptable risk to fish and aquatic invertebrates.

For this product the dye is contained in a water soluble bag when it is applied to a body of water v.s. applying the product as a liquid. In situations where the body of water has little circulation, the concentration of dye may remain above levels that caused mortalities in the above tests. The proposed use would not pose an unacceptable risk to fish and aquatic invertebrates based on the assumption that fish can swim out of the concentrated dye cloud if they find it irritating and aquatic invertebrates from areas of the treated water body that were not subjected to the concentrated dye cloud will repopulate any areas adversely affected by the concentrated dye cloud.

This product apparently works by imparting a blue color to the water which adsorbs the red and yellow wave lengths of light needed by plants for photosynthesis. Based on a reported demonstration with a similar dye product, I assume the blue color imparted to the water is not expected to reduce visibility to the point that swimmers or aquatic organisms would be unable to see a reasonable distance in the water.

I note the label lists fish hatcheries and fish farms as intended treatment sites. The use of this product on these sites may result in residues of the dye in fish which may be used for food.