The Effect of the Product *SpillAway+ Absorbent*^{tm} on the Stimulation and Growth of the Alga *Selanastrum capricornutum* Under Laboratory Conditions

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Study Time Table

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Study Overview[1]

At the request of EnviroLogic, a modified algal growth test was conducted to determine if their

product *SpillAway+ Absorbent* stimulated algal growth in an aqueous suspension when compared against a control group. The green alga, *Selanastrum capricornutum*, population was exposed in a static system to a level of SpillAway+ Absorbent suspension for 96 hours. The response of the population was then measured in terms of changes in chlorophyll *a* content.

A suspension of the product was made by adding 1 gram of the product to 1.0 liters of moderately hard synthetic freshwater (MHSF) and mixing with a stir bar at a rate of 100 rpm. The suspension was allowed to mix for one hour. The suspension then settled for 2 hours, three 100-mL aliquots of the clear supernatant was decanted off into three 250-mL Erlenmeyer flasks. An additional three flasks were filled with 100-mL of unaltered MHSF to act as the control group. All six flasks were inoculated with 1-mL of a sterile culture of S. capricornutum, and growth nutrients were added as well. The flasks were placed in a growth incubator illuminated at approximately 400 ft-c and were gently stirred throughout the study by the use of a shaker table orbiting at 100 cpm.

Summary of Final Results

At the end of the 96 hour exposure period, the chlorophyll *a* levels were measured[2] on each flask. The results from the control group and the dosed group were then averaged. The level of chlorophyll *a* measured on the control group was 8.661 mg/m^3, the average of the dosed group was 6.094 mg/m^3 or approximately 30% less growth than that of the control.

References

1. EPA Test Method 1003. Green Alga, Selanastrum capricornutum, Growth Test. EPA-600-4-91-002. July 1994.

2. EPA Test Method 446.0. In vitro Determination of Chlorophylls a, b,, c1 + c2 and Pheopigments in Marine and Freshwater Phytoplankton by Visible Spectrophotometry. March 1994.