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Standard Guide for Conducting Static, Axenic, 14-Day Phytotoxicity Tests in Test Tubes with the Submersed Aquatic Macrophyte, *Myriophyllum sibiricum* Komarov¹

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1. Scope

1.1 Submersed rooted aquatic macrophytes are important components of aquatic systems. They contribute to primary productivity, improve water quality, cycle nutrients, generate oxygen, affect flow patterns, provide habitat and food for other organisms, and stabilize the sediment. These plants can be adversely affected when pesticides are sprayed to control aquatic weeds and algal blooms or when phytotoxic chemicals enter the waterway through atmospheric fallout, soil erosion, industrial effluent, sewage discharge, spills or drift from aerial or ground applications.

1.2 This guide is designed to give guidance for assessing the potential phytotoxicity of a test material added to a sterile liquid growth medium on a ~~certain~~ species of freshwater submersed macrophyte (*Myriophyllum sibiricum* Komarov) during a 14-day static exposure. A sterile system is recommended to determine the direct effect of the test chemical upon individual parameters of the submersed macrophyte because there is no degradation of the test item by micro-organisms. For similar reasons, other aquatic plant testing, such as those of, *Lemna* and algae, is commonly conducted in an axenic fashion. Overall environmental impact can not be directly determined. The main other disadvantage of the axenic test system is the difficulty in preventing accidental contamination. These procedures could possibly be useful for conducting toxicity tests with other species of submersed

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