

November 28, 2006 Enviroshield LLC Bob Arena 181 St. George Road South Thomaston, Maine 04858 r.arena@enviroshield-usa.com

Dear Robert,

This is a final report from MouldWorks on our second evaluation of your protective coating. We evaluated the ability of this material to inhibit germination and/or growth of 2 different commonly occurring interior molds: *Cladosporium sphaerospermum*, *Penicillium aurantiogriseum*.

Mold infestations in houses are established by spores which are deposited from the air, brought in by water intrusions, or disseminated by insects and mites. In virtually all cases infestations occur when spores germinate and grow within or on common construction materials such as OSB, dimensional lumber, drywall, or insulation. If spores cannot germinate and grow on protective coatings, then they cannot serve to initiate mold colonization within a building. The MouldWorks protocol for evaluating the resistance of coatings to molds involves an assessment of spore germination in 5 species of common household molds under laboratory conditions which simulate those that may occur in buildings prior to appearance of mold problems. These spores came from cultures of molds isolated by us from samples sent to MouldWorks for analysis – bulks, tapelifts, and viable spore plates. For the most part these cultures were isolated within the last 6 months. When cultures show signs of senescence and loss of vigor, we replace them with recent isolates.

Your product was sprayed onto the surfaces of dry filter papers. When the coating had dried for 2-3 days, about 100 µl of spore suspension containing ca. 5 million spores/ml in a nutrient solution was placed on the surface of each coated paper and spread with a sterile cotton swab. The inoculated filter papers were then placed on the surfaces of water agar plates, and spore germination was monitored for 1 week. We did this by taking tapelifts from the surfaces of inoculated coatings and looking for signs of spore germination under the compound microscope. Control filter papers coated with black enamel spray paint and placed in water agar plates were inoculated with the same 5 mold species used for the test coatings. Spore suspensions were also plated out on plain water agar. These controls tested both for spore viability on non-coated agar and on a non-toxic coating. After two weeks spore germination was scored and



tabulated. 100 spores of each species were counted and checked for germination. In the process several thousand spores were glanced at casually. The results from these tests can be summed up in a simple sentence. Neither of the molds showed any sign of germination or growth on the surfaces coated with your product. Spores germinated and grew on both the agar and black enamel controls. We conclude that your product was highly effective in preventing fungal germination and growth under the conditions of this assay, which are certainly far more stringent that might occur under normal conditions leading to a mold infestation.

Sincerely yours,

George Carroll Ph.D.

George Carroll, Ph.D. MouldWorks Mycologist