



FINAL REPORT

PROTOCOL: ASTM G21-96 Standard Practice for Determining Resistance of
Synthetic Polymeric Materials to Fungi

ORDER NO: 240804019-002

PREPARED FOR:
Randy Bryant
United Plastics Corp.
511 Hay St.
Mt. Airy, NC 27030

SUBMITTED BY:
EMSL ANALYTICAL, INC.
4 Fairfield Blvd.
Wallingford, CT 06492
203.284.5948
www.emsl.com

EMSL Analytical, Inc.
Microbiology Special Projects Division
4 Fairfield Blvd.
Wallingford, CT 06492
203.284.5948

Certificate of Analysis

Client: United Plastics Corp.

Contact: Randy Bryant

Project: ASTM G21- 96 Standard Practice for determining resistance of synthetic polymeric materials to fungi

Product: EVA sheet with Polyester film laminated

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Sample received: 10/16/2008

Start date: 10/23/2008

Completion Date: 11/20/2008

Amended Date: 05/05/2009

Experimental Summary:

Six sets of EVA SHEET WITH Polyester film were received for testing. A set labeled S-2 was received for testing. Testing was done on both sides of the sample; top and bottom. Testing was performed according to ASTM G21-96, which determines the resistance of synthetic polymeric materials to fungi. Samples were tested using petri dishes containing sterile nutrient salts agar (pH 6.5) and one 2"x2" piece of each coupon. Each sample type was tested in triplicates. Each replicate was inoculated with a fungal suspension that consisted of equal volumes (30.0 mL) of 5 mold suspensions that were at a concentration of 1,000,000 spore \pm 200,000 per ml. The fungal species tested included *Gliocladium virens* ATCC 9645, *Aspergillus niger* ATCC 9642, *Penicillium pinophilum* ATCC 11797, *Chaetomium globosum* ATCC 6205 and *Aureobasidium pullulans* ATCC 15233. Three pieces of inoculated sterilized filter

paper were included as positive controls. One non inoculated coupon per sample type was included as negative control as well as a set of media blanks as controls. Samples and controls were incubated at $27.0^{\circ}\text{C} \pm 2.0^{\circ}\text{C}$ for 28 days at relative humidity of 85.0%.

Experimental Summary:

The following rating system was used to score each sample:

Observed Growth on Specimens Rating	Rating
None	0
Traces of Growth (less than 10%)	1
Light Growth (10-30%)	2*
Medium Growth (30-60%)	3
Heavy Growth (60% to complete coverage)	4

* According to ASTM G21-96, "continuous cobwebby growth extending over the entire specimen, even though not obscuring the specimen, should be rated as a two".

Table 1.1 Results from each of the three replicates prepared for each sample are reported.

Sample ID	Rating											
	Week 1 (10/30/08)			Week 2 (11/06/08)			Week 3 (11/13/08)			Week 4 (11/20/08)		
dB3 Top	0	0	0	0	0	0	0	0	0	0	0	0
dB3 Bottom	0	0	0	0	0	0	0	0	0	0	1	0
dB3 Top-Blank	0	0	0	0	0	0	0	0	0	0	0	0
dB3 Bottom-Blank	0	0	0	0	0	0	0	0	0	0	0	0
Media Blank	0	0	0	0	0	0	0	0	0	0	0	0
Positive Control (filter paper)	2	2	2	4	4	4	4	4	4	4	4	4

Comment: Sample Identification changed from S-2 to dB3 per client request on 04/24/2009.

Prepared By:



Gloria Oriol
Microbiology Laboratory Manager
EMSL Analytical, Inc.