

ANTIMICROBIAL TEST LABORATORIES

Microbiology Study Report NG4335

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Client Information

Company Name: Bautex Systems Sponsor: Duane Holloway
Sponsor Phone: 972.689.9409 E-mail: duane.holloway@bautexsystems.com

Test Information

Test(s) Performed: ASTM G21 (Resistance of Synthetic Polymeric Materials to Fungi)
Performed by: D. Sowersby, M.S.

Sample Information

Test Substance ID(s): See Table on Page 2 Sample(s) Received: 21 JUN 2013

Parameters

Microorganisms: *P. funiculosum* ATCC 11797 *A. brasiliensis* ATCC 9642 *C. globosum* ATCC 6205
T. virens ATCC 9645 *A. pullulans* ATCC 15233
Growth Medium: PDA (Potato Dextrose Agar) Exposure Temp: 30.0 ± 2°C
Inoculum Volume: 1 second spray Suspension Medium: Nutrient Salts Solution
Exposure Medium: Nutrient Salts Agar Exposure Time(s): 28 Days
Targeted CFU/ml: 1 X 10⁶, For Each Fungal Isolate

Controls

Positive Control: Passed, Confluent Growth Inoc. Media Control: Passed, No Growth Observed

Test Results

Test(s) Valid?: Results valid relative to Confirmation: Visual Examination
ATL positive control

Notes: Study Sponsor provided pre-cut samples with dimensions of ~ 1.5 by 1.5". Specimens were placed on sterile Petri dishes and NSA media was poured around specimens up to ~ 2 mm from the surface. Samples were inoculated by aerosol spraying (1 second) with a freshly prepared fungal suspension. Test samples were then sealed to maintain ~ 85% relative humidity, and incubated at 30°C ± 2°C for a period of 28 days. Observations were documented every 7th day until completion of the study on 26 JUL 2013.

Tests Completed: 26 JUN 2013 Report Sent: 30 JUL 2013

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Test Summary

1. Individual spore suspensions were prepared according to ASTM G21 guidelines.
2. Each spore suspension was normalized to between 8×10^5 - 1.2×10^6 CFU/ml.
3. An equal volume of each spore suspension was pooled and added to a sterile Preval sprayer.
4. Test coupons were placed on sterile nutrient salts agar.
5. Positive controls (1 x 1 inch sterile filter paper) were placed on sterile nutrient salts agar.
6. All samples and controls were sprayed for ~1 second to visibly moisten all samples and agar surfaces.
7. Samples and controls were sealed and incubated for 28 days at $30 \pm 2^\circ\text{C}$.

Reference: ASTM Standard G21, 2009, "Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi," ASTM International, West Conshohocken, PA, 2009, DOI: 10.1520/G0021-09

Scoring

Score	Description
0	No Growth Detected on Surface of Sample
1	Traces of Growth Detected on Sample (<10%)
2	Light Growth Detected on Sample (10%-30%)
3	Medium Growth Detected on Sample (30%-60%)
4	Heavy Growth Detected on Sample (60%-Complete)

Results Table

Sample	Incubation Time and Growth Score			
	Day 7	Day 14	Day 21	Day 28
ATL Negative Control	0,0,0	0,0,0	0,0,0	0,0,0
ATL Positive Control (Filter Paper)	4,4,4	4,4,4	4,4,4	4,4,4
EPS-cement	0,0,0,0	0,0,0,0	0,0,0,0	0,0,0,0

Note: multiple numbers in each cell reflect scores of replicates

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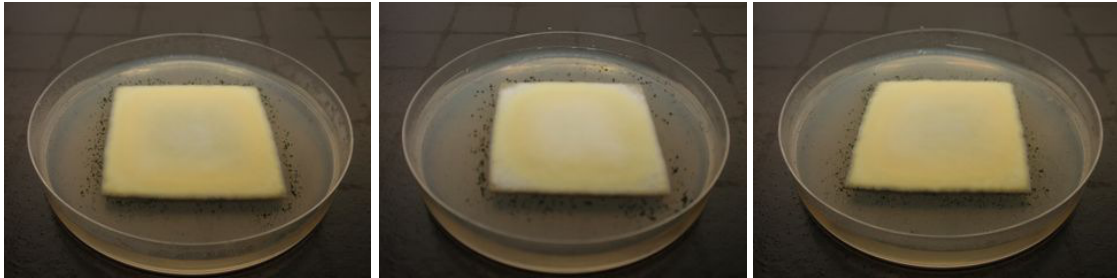
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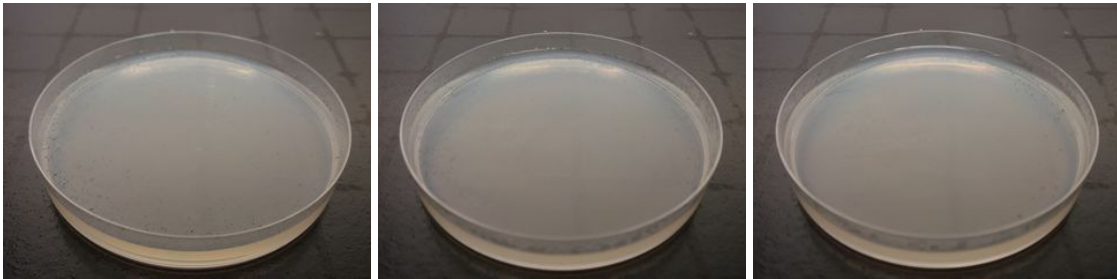
Results (Cont'd)

Pictures of samples after 7 days

Positive Control



Negative Control



EPS-Cement



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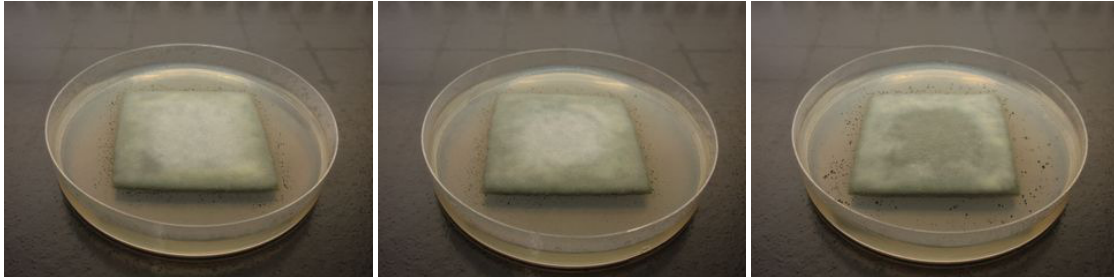
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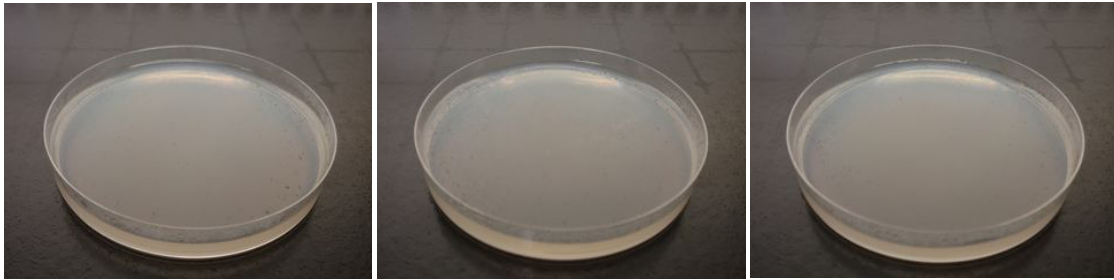
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Pictures of samples after 14 days

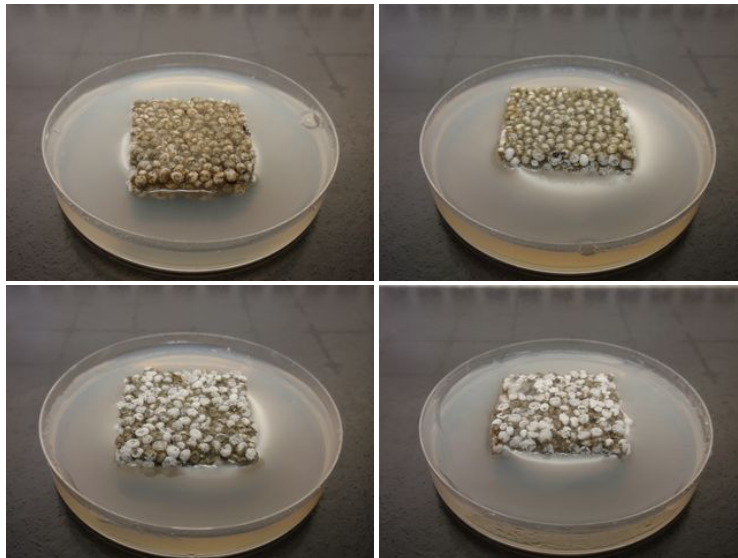
Positive Control



Negative Control



EPS-Cement



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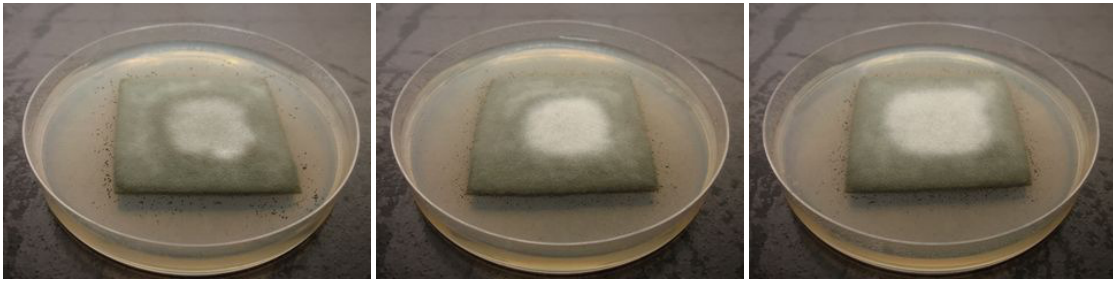
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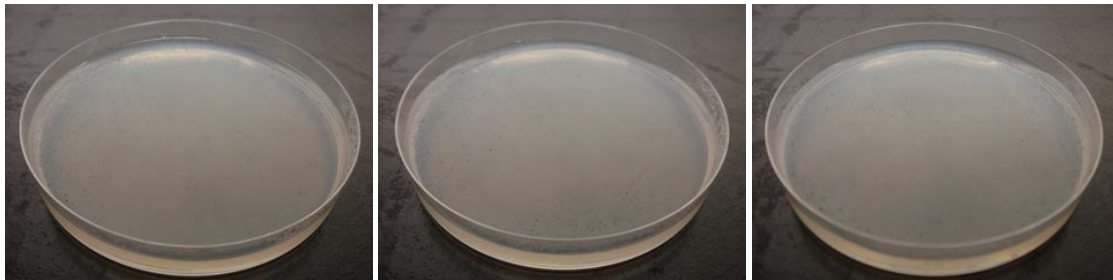
Results (Cont'd)

Pictures of samples after 21 days

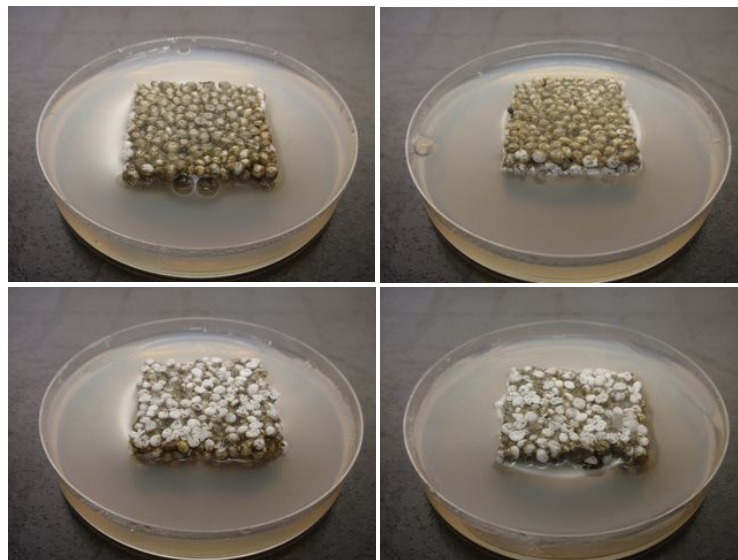
Positive Control



Negative Control



EPS-Cement



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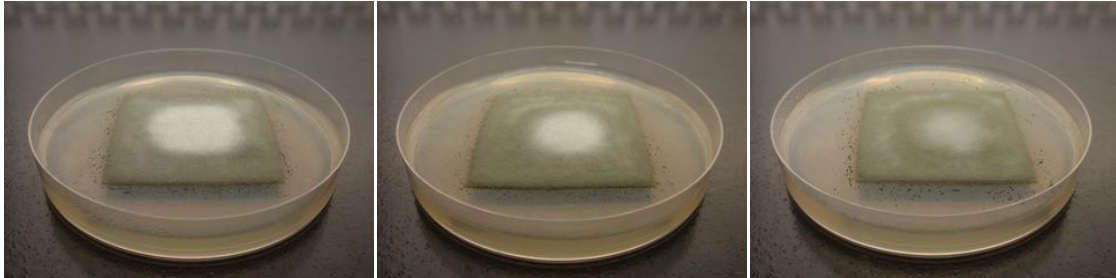
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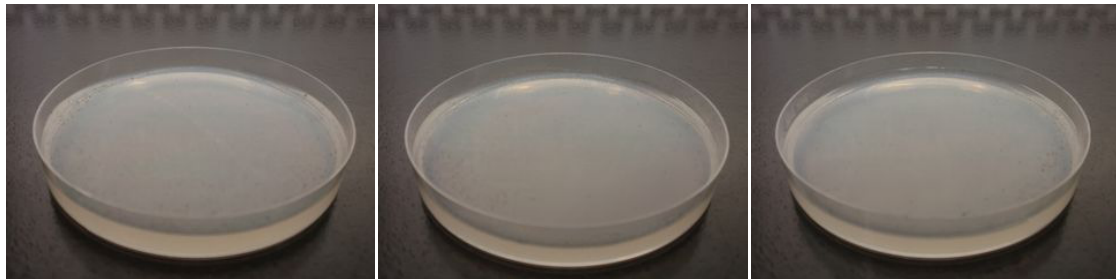
Results (Cont'd)

Pictures of samples after 28 days

Positive Control



Negative Control



EPS-Cement

