130 Erick Street

Crystal Lake, IL 60014

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Final Report for:

Mermet SAS

58 Chemin du Mont Maurin

F – 38630 Veyrins

Test Method:

ASTM E 2180-07(2012)
Standard Test Method for Determining the Activity of Incorporated Antimicrobial Agent(s) in Polymeric or Hydrophobic Materials

MSL Project# R2013-393-3

Amendment to R2013-393-2

Sample Received: 10/7/13

Testing Initiated: 10/17/13

Testing Completed: 10/21/13

Report Issued: 10/28/13

Performed By: *Marcy Aaron*
Title: Staff Scientist

Approved By: *Judy LaZonby*
Title: Laboratory Director

Objective:

To evaluate the surface of one treated fabric sample for antimicrobial effectiveness against *Staphylococcus aureus* ATCC #6538 as demonstrated by ASTM E 2180 test method.

Test Sample Description:

1. A = Screen Vision/Design/Thermic = Treated Fabric
2. MicroStar Untreated Control – Inert Polyester Panel

The sample was suitable for ASTM E 2180 testing and tested as received. The sample was tested in triplicate.

Procedure:

The inoculum was prepared using *Staphylococcus aureus* ATCC #6538, which was adjusted using a spectrophotometer to a concentration of 1-5 x 10^8 CFU/mL using a phosphate buffer solution. One (1.0) mL of the standardized culture was added to 100 mL of prepared molten agar slurry held at 48°C, giving a final inoculum concentration of 1-5 x 10^6 CFU/mL. The MicroStar Untreated Control were tested in triplicate at Time = 0 and Time = 24 hours. The treated sample was tested in triplicate at Time = 24 hours. One (1.0) mL of the inoculum was pipetted evenly onto a 3.0 cm by 3.0 cm area of each test piece. The agar slurry was allowed to gel and the samples were placed in sterile sample bags and incubated at 35 ± 2°C for contact times of 0 hour and 24 hours. At the appropriate contact time, DE neutralizing broth was added to each sample bag in a 1:10 dilution. Each sample was then sonicated for 1 minute followed by 1 minute of massage to facilitate the release of the agar slurry overlay from the sample surface and into the neutralizing broth. Serial dilutions of the neutralizing broth containing the disrupted agar inoculum were plated using Tryptic Soy Agar. The plates were incubated for 48 hours at 35°C ± 2. After incubation, colony numbers were counted and any reductions in the number of bacteria were calculated.
Please note that the T=0 is somewhat of a misnomer in that the agar slurry must solidify and then be removed so there is about 10 minutes of contact time during that process.

Test Results:

Results can be found in the data tables below. These results pertain only to samples tested.

Percent reduction is determined by comparing the treated sample: A = Screen Vision/Design/Thermic after the contract time to the MicroStar Untreated Control after the contact time using the geometric mean and antilog as indicated by the standard test method.

Reduction of *S. aureus* ATCC# 6538 on Treated Fabric Compared with Untreated Control

Sample	Geometric Mean of Recovered Bacteria (Log Value)	Log Reduction Time = 24 Hours	Percent Reduction Time = 24 Hours
Untreated Control	6.60	5.04	99.9991 %
A = Screen Vision/Design/Thermic = Treated Fabric	1.56		

- The number of bacteria was reduced on the Treated Fabric by a log value of 5.04 as compared to the MicroStar Untreated Control. This is a 99.9991% reduction in bacteria.
- The starting concentration of the agar slurry at Time = 0 was 2.95 x 10^6 CFU/mL.
- The MicroStar Untreated Control had appropriate recovery of test organism at Time = 0 as compared to the number of bacteria in the agar slurry. The MicroStar Untreated Control recovered 1.2 x 10^6 CFU/mL at Time = 0.
- Recovery of the test organism after 24 hours contact on the MicroStar Untreated Control was 4.05 x 10^6 CFU/mL (log value 6.60) confirming the viability of the organism.