130 Erick Street

Crystal Lake, IL 60014

(815) 526-0954

Final Report for:

Mermet

58 rue du Mont Maurin

Veyrins Thuellin, 38630, France

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# R2015-224

Sample Received: 4/27/15

Testing Initiated: 5/15/15

Testing Completed: 5/18/15

Report Issued: 5/19/15

Performed By:	*Debbie Koester*	Approved By:	*Paul Schook*
Title:	Quality Manager/Senior Scientist	Title:	Operations Manager

Objective:

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

Test Sample Description:

1. Satine 5500 Low E – Side 1
2. Satine 5500 Low E – Side 2

The untreated plastic control was an inert polyester panel supplied by MicroStar.

The samples was received as an 8" x 10" piece. Six squares measuring 3cm x 3cm were aseptically cut from the larger sheet. Side 1 was the surface that has the sample label with Side 2 being the opposite surface.

Procedure:

The test organism *Staphylococcus aureus* ATCC# 6538 was used to prepare a molten agar slurry for the test inoculum. The untreated plastic control was tested in triplicate at Time = 0 and Time = 24 hours. The treated samples were tested in triplicate at Time = 24 hours. 0.5 mL of the inoculum agar slurry 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 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 in a 1:10 dilution. Each sample was then sonicated for 1 minute followed by 1 minute of vigorous shaking 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.

Test Results:

Results can be found in the data table below. The results pertain only to samples tested.

The number of viable bacteria in the test inoculum agar slurry was 3.1 x 10^5 CFU/mL (310,000 or log value 5.49).

0.5mL of the test inoculum agar slurry was applied onto the test pieces resulting in an approximate starting concentration of 1.6 x 10^5 CFU (160,000 or log value 5.19)

Sample	Geometric Mean of Recovered Bacteria (Log Value)	Log Reduction at Time = 24 hours	Percent Reduction at Time = 24 Hours
Untreated Plastic Control	5.19		
Satine 5500 Low E – Side 1	5.31	No Reduction	
Satine 5500 Low E – Side 2	5.24	No Reduction	

Percent reduction is determined by comparing the treated sample after the contract time to the untreated plastic control after the contact time using the geometric mean and antilog as indicated by the standard test method.

Percent reduction is translated into log reduction by the following:

90% reduction = 1 log reduction; i.e. 1,000,000 (Log Value 6.00) reduced to 100,000 (Log Value 5.00)
99% reduction = 2 log reduction; i.e. 1,000,000 (Log Value 6.00) reduced to 10,000 (Log Value 4.00)
99.9% reduction = 3 log reduction; i.e. 1,000,000 (Log Value 6.00) reduced to 1,000 (Log Value 3.00)
99.99% reduction = 4 log reduction; i.e. 1,000,000 (Log Value 6.00) reduced to 100 (Log Value 2.00)
99.999% reduction = 5 log reduction; i.e. 1,000,000 (Log Value 6.00) reduced to 10 (Log Value 1.00)