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Antimicrobial Assessment of Seven PU Nonwoven Textile Samples

3612641

Two PU nonwoven textile samples, treated with Ultra-Fresh CA-16, were received from SYNT3 SRL on June 25, 2020. At Thomson Research Associates, Inc., the samples were tested for antimicrobial activity using a quantitative test method.

PROCEDURE

Quantitative Antibacterial Assessment:

ISO 22196:2011 was used to quantitatively test the specimen for antibacterial activity. In brief:

1. The sample was placed into a container with a lid.
2. A 0.3 mL inoculum of *Staphylococcus aureus* (ATCC #6538) was placed in microdroplets on the surface of the samples.
3. The specimen was incubated 24 hours at 37C.
4. 20 mL of Letheen broth was added to the container and shook. The liquid was plated using dilution techniques.
5. The "Value of Antimicrobial Activity" was carried out using the formula

   R = [log (B/C)]
   Where:
   R= value of antimicrobial activity
   B = Average of the number of viable cells of bacteria on the untreated test piece / inoculum control after 24 hours
   C = Average of the number of viable cells of bacteria on the antimicrobial test piece after 24 hours.

RESULTS

Quantitative Assessment of Activity - ISO 22196:2011 ***S. aureus***					
Concentration of starting inoculum		1.82 x 10^5			
Sample Description		**No. Bacteria Recovered**	**Log Value**	**R = [log(B/C)]**	**% Reduction**
1 VIVELLA AB Nonwoven textile coagulated and printed with polyurethane for bookbinding industry	Face	2.56 x 10^1	1.4	4.0	>99.9%
	Back	6.07 x 10^1	1.8	3.6	>99.9%
2 NEBRASKA THERMO AB Nonwoven textile coaulated and printed with polyurethane for bookbinding industry	Face	2.56 x 10^1	1.4	4.0	>99.9%
	Back	1.76 x 10^2	2.2	3.2	>99.9%
Inoculum control		2.25 x 10^5	5.4	---	---

Note: The level of treatment stated above indicates theoretical levels only.

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