

Skin Guard Testing Summary



Summary #1

Study Title: ASTM E1052 Standard Test Method to Assess the Activity of Microbicides against Viruses in Suspension

Location: Microchem Laboratory, 1304 W. Industrial Blvd., Round Rock, Texas 78681

Test Substance: Skin Guard hand gel

Test Microorganism: Human Coronavirus, Strain 229E, ATCC VR-740

Date: MAY 05, 2020

Study Results

The evaluated test substance demonstrated a 99.68% (3.25 Log₁₀) reduction at contact times of 60 seconds and 5 minutes.

Study Purpose

To demonstrate that the test product has the antimicrobial properties of the label claim.

		Contact Time	
		60 seconds	5 minutes
Dilution	Cell Control	0 0 0 0	0 0 0 0
	10 ⁻¹	N/A	N/A
	10 ⁻²	T T T T	T T T T
	10 ⁻³	0 0 0 0	0 0 0 0
	10 ⁻⁴	0 0 0 0	0 0 0 0
	10 ⁻⁵	0 0 0 0	0 0 0 0
	10 ⁻⁶	0 0 0 0	0 0 0 0
TCID ₅₀ per 0.1 ml		≤2.50 Log ₁₀	≤2.50 Log ₁₀
Log ₁₀ Reduction		3.25 Log ₁₀	3.25 Log ₁₀
Percent Reduction		99.68%	99.68%

Key: + = Virus recovered; 0 = Virus not recovered and/or no cytotoxicity observed;
T = Cytotoxicity observed

Summary #2

Study Title: Kill Rate

Location: MICROCONSULT, INC., Microbiological & Analytical Testing Laboratory, 3218 Commander Dr., Carrollton, TX 75006

Test Substance: Skin Guard

Date: April 04, 2019

Study Results

A minimum 2- Log reduction is required in order to claim antimicrobial activity which was achieved by Skin Guard against all bacteria tested at 30 seconds and against *C. tropicalis* at 60 seconds. Thirteen microorganisms were tested.

SKIN GUARD demonstrated:

- At 30 seconds contact time, a 4.03 Log reduction and at 60 seconds contact time a 5.14 Log reduction against ***Staphylococcus aureus* MRSA**.
- At 30 seconds and 60 seconds contact time 5.24 Log reduction against ***Clostridium difficile* (C-diff)**
- At 30 seconds contact time a 3.74 log reduction and at 60 seconds a 4.07 Log reduction against ***Klebsiella pneumoniae***.
- At 30 seconds contact time a 3.25 Log reduction and at 60 seconds contact time a 4.81 Log reduction against ***Escherichia coli* (E-coli)**.

* Of particular note for hospitals and healthcare workers

C. Albicans failed to come up with a 2-Log reduction at both 30 seconds and 60 seconds. A second test was run to carry out the contact time and at 2-minute contact time a 4-log reduction was achieved against *C. Albicans*. At 5-minute contact time Skin Guard achieved a 99.999% (5-Log) reduction against *C. Albicans*. Please see the chart listed at the bottom of this summary.

Study Purpose

To demonstrate that the test product has the antimicrobial properties of the label claim.

459.0 g Q8
Lot: 190212-01AB

Initiated: 04/04/2019

Results: 04/09/2019

Organisms	Inoculum Level	Average	Log Reduction
<i>E. coli</i> 30 Seconds	3.21 X 10 ⁵	180	3.25
<i>E. coli</i> 60 Seconds	3.21 X 10 ⁵	5	4.81
<i>P. aeruginosa</i> 30 Seconds	4.47 X 10 ⁵	45	4.00
<i>P. aeruginosa</i> 60 Seconds	4.47 X 10 ⁵	10	4.65
<i>K pneumoniae</i> 30 Seconds	4.70 X 10 ⁵	85	3.74
<i>K pneumoniae</i> 60 Seconds	4.70 X 10 ⁵	40	4.07
<i>S. marcescens</i> 30 Seconds	5.40 X 10 ⁵	755	2.85
<i>S. marcescens</i> 60 Seconds	5.40 X 10 ⁵	145	3.57
<i>S. aureus</i> MRSA 30 Seconds	6.94 X 10 ⁵	65	4.03
<i>S. aureus</i> MRSA 60 Seconds	6.94 X 10 ⁵	5	5.14



459.0 g Q8
Lot: 190212-01AB

Initiated: 04/04/2019

Results: 04/09/2019

Organisms	Inoculum Level	Average	Log Reduction
<i>S. epidermidis</i> 30 Seconds	3.69 X 10 ⁵	15	4.39
<i>S. epidermidis</i> 60 Seconds	3.69 X 10 ⁵	No Growth	5.57
<i>S. pyogenes</i> 30 Seconds	1.67 X 10 ⁵	No Growth	5.22
<i>S. pyogenes</i> 60 Seconds	1.67 X 10 ⁵	No Growth	5.22
<i>E. faecalis</i> (51299) 30 Seconds	7.78 X 10 ⁵	245	3.50
<i>E. faecalis</i> (51299) 60 Seconds	7.78 X 10 ⁵	10	4.89
<i>E. faecalis</i> (51575) 30 Seconds	8.59 X 10 ⁵	788	3.04
<i>E. faecalis</i> (51575) 60 Seconds	8.59 X 10 ⁵	15	4.76
<i>E. faecium</i> 30 Seconds	2.50 X 10 ⁵	No Growth	5.40
<i>E. faecium</i> 60 Seconds	2.50 X 10 ⁵	No Growth	5.40

459.0 g Q8
Lot: 190212-01AB

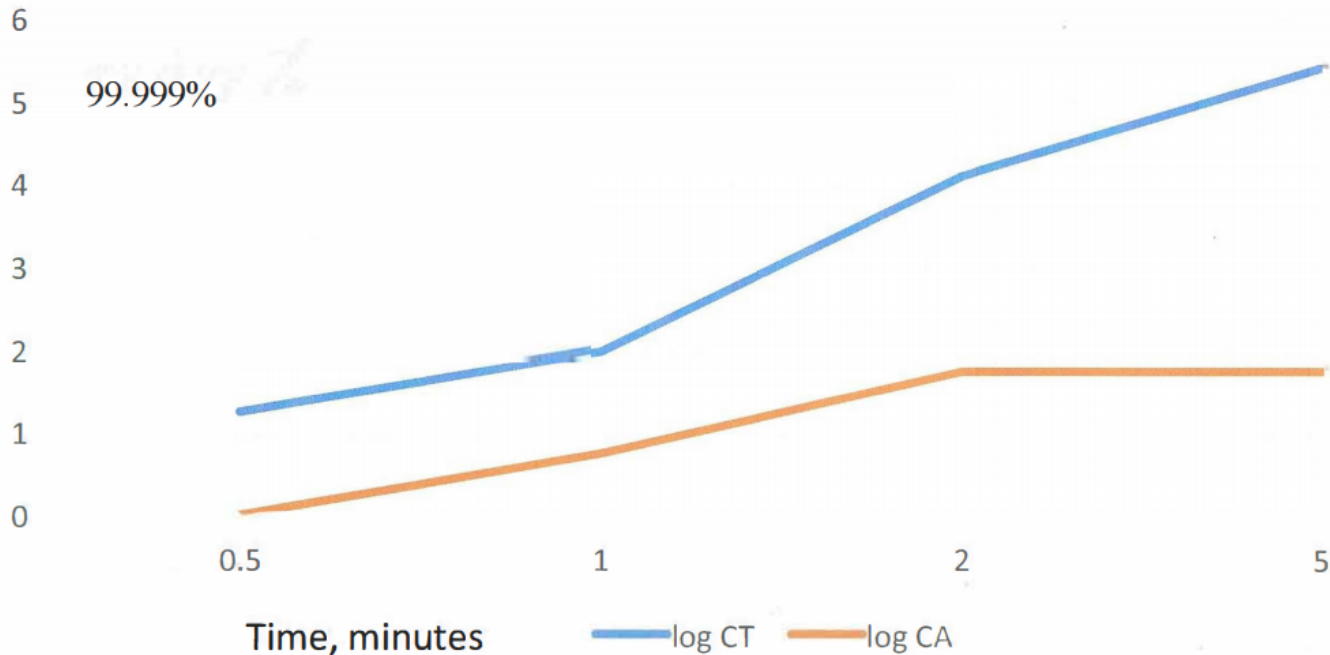
Initiated: 04/04/2019

Results: 04/09/2019

Organisms	Inoculum Level	Average	Log Reduction
<i>C. albicans</i> 30 Seconds	6.06 X 10 ⁵	203,250	0.47
<i>C. albicans</i> 60 Seconds	6.06 X 10 ⁵	97,500	0.79
<i>C. tropicalis</i> 30 Seconds	1.97 X 10 ⁵	10,000	1.29
<i>C. tropicalis</i> 60 Seconds	1.97 X 10 ⁵	1,860	2.02
<i>C. difficile</i> 30 Seconds	1.74 X 10 ⁵	No Growth	5.24
<i>C. difficile</i> 60 Seconds	1.74 X 10 ⁵	No Growth	5.24



Log count vs Time



Summary #3

Study Title: Investigation of Prolonged Activity of Germicidal Hand Gel

Location: THE DENTAL ADVISOR Biomaterials Research Center Ann Arbor, Michigan

Test Method: ASTM International Standard Test Method E1052 Assessment of Antimicrobial Agents Against Viruses in Suspension

Test Substance: Skin Guard gel

Date: April 2012

Study Results

Skin Guard Gel demonstrated an immediate antimicrobial effect on a variety of bacteria cultured from healthy skin yet did not disrupt re-establishment of normal skin flora. A number of bacterial species, as represented by gram-negative rods and gram-negative cocci, were undetectable on the hands of volunteers who had used *Skin Guard Gel* after washing with soap and water. Normal bacterial components were re-established on the hand sites in 24 hours.

No hand dermatitis problems were found to develop with any of the volunteers during the course of the study.

Study Purpose

The ASTM E1052 test method is used to determine the virucidal effectiveness of liquid products such as hand soaps, over-the-counter topical agents, and other skin care products.

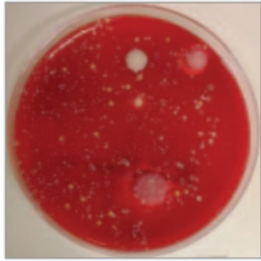


Figure 1: Bacterial growth cultured from a 1:10 dilution of Group 1 glove juice. *Note the high colony count and the diverse pattern of colony morphologies.*

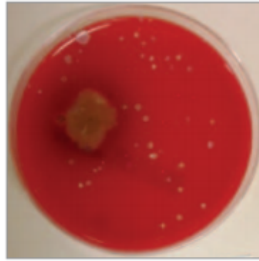


Figure 3: Bacterial growth cultured from a 1:10 dilution of Group 2 glove juice. *Note a lower colony count from the Group 1 culture and the diverse pattern of colony morphologies.*

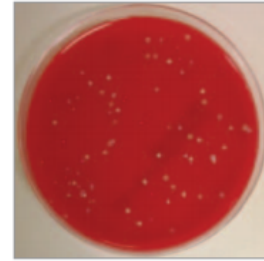


Figure 5: Bacterial growth cultured from a 1:10 dilution of Group 3 glove juice. *Note a lower colony count than the Group 1 culture and the homogeneity of colony morphologies.*

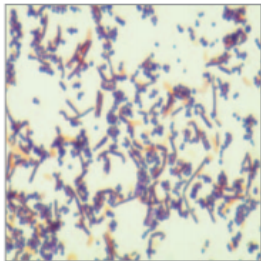


Figure 2: Gram stain of representative microflora collected from the cultured Group 1 glove juice seen in Figure 1. *Note the presence of both gram-positive and gram-negative bacteria, with gram-positive cocci in irregular clumps occurring as the dominant forms.*

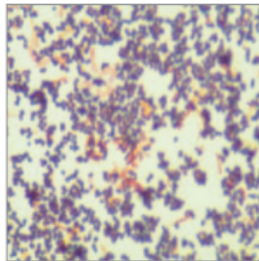


Figure 4: Gram stain of representative microflora collected from the cultured Group 2 glove juice seen in Figure 3. *Note the predominate presence gram-positive cocci in irregular clumps along with smaller quantities of gram positive rods, gram negative cocci and rods.*

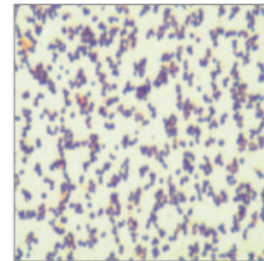


Figure 6: Gram stain of representative microflora collected from the cultured Group 3 glove juice seen in Figure 5. *Note the homogenous presence gram-positive cocci in irregular clumps.*