



STUDY REPORT

Study Title

Antibacterial Activity and Sanitizing Efficacy of Tool Klean's Device

Test Method

ASTM International Method E1153 Modified for Devices
Test Method for Efficacy of Sanitizers Recommended for Inanimate Non-Food Contact Surfaces

Study Identification Number

NG12946

Study Sponsor

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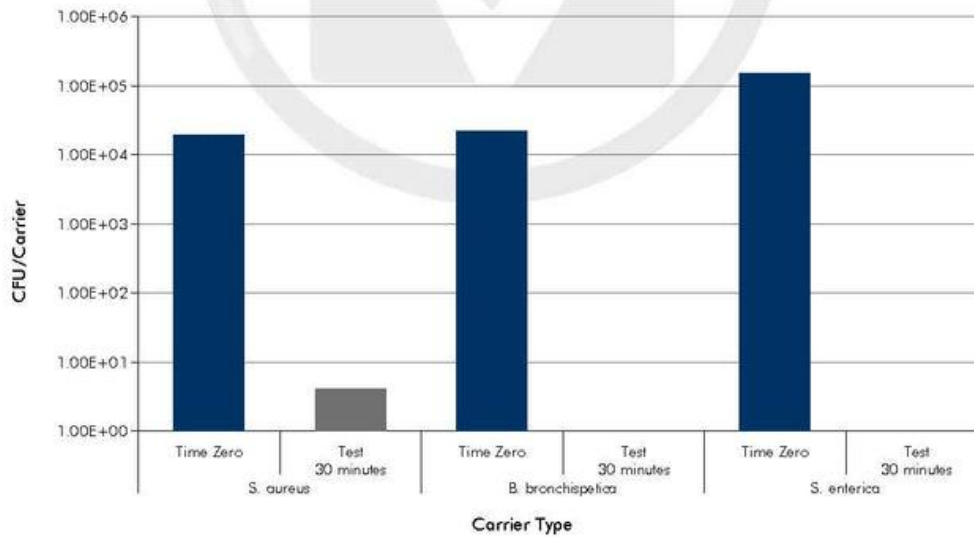
Test Facility

Microchem Laboratory
1304 W. Industrial Blvd
Round Rock, TX 78681
(512) 310-8378
Testing performed by: B. Shaffer

Results of the Study (cont.)– UV Trolley Cart Room Air Sanitizer

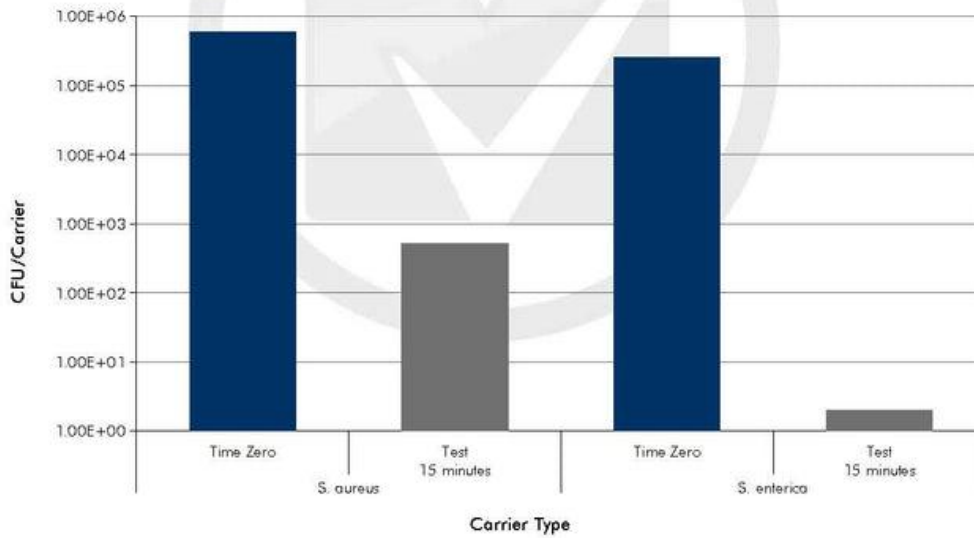
Test Device	Test Microorganism	Contact Time	CFU/Carrier	Percent Reduction Compared to Control at Time Zero	Log ₁₀ Reduction Compared to Control at Time Zero
UV Trolley Cart Room Air Sanitizer	<i>S. aureus</i> ATCC 6538	Time Zero	1.90E+04	N/A	
		30 minutes	4.00E+00	99.98%	3.68
	<i>B. bronchiseptica</i> ATCC 10580	Time Zero	2.20E+04	N/A	
		30 minutes	1.00E+00	99.995%	4.34
	<i>S. enterica</i> ATCC 10708	Time Zero	1.53E+05	N/A	
		30 minutes	<1.00E+00	>99.9993%	>5.18

Note: The limit of detection for the above sample is 1.00E+00 CFU/Carrier. Values observed below this limit are denoted as <1.00E+00 CFU/Carrier. The limit of detection is used to calculate percent and log reductions.



Results of the Study (cont.)– Tabletop UV Room Air

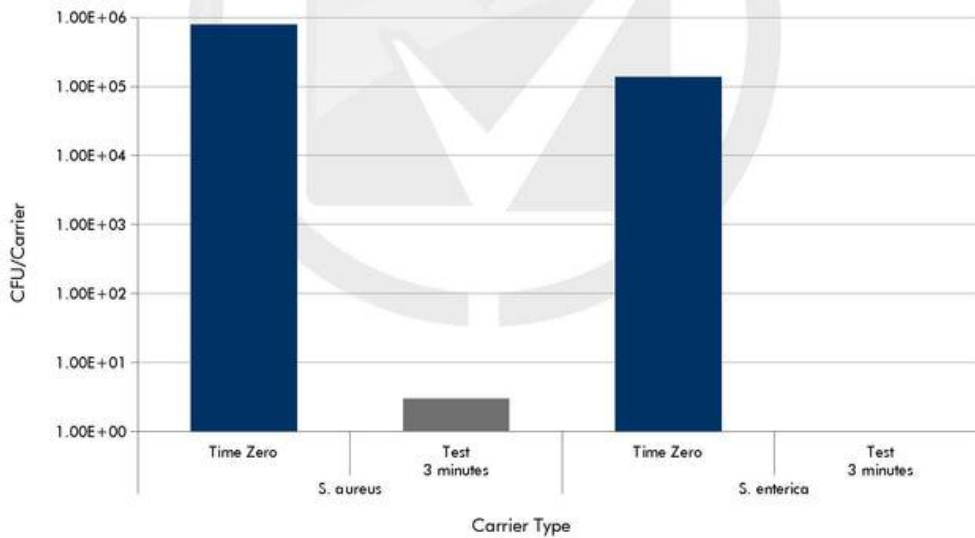
Test Device	Test Microorganism	Contact Time	CFU/Carrier	Percent Reduction Compared to Control at Time Zero	Log ₁₀ Reduction Compared to Control at Time Zero
Tabletop UV Room Air	<i>S. aureus</i> ATCC 6538	Time Zero	5.90E+05	N/A	
		15 minutes	5.18E+02	99.91%	3.06
	<i>S. enterica</i> ATCC 10708	Time Zero	2.53E+05	N/A	
		15 minutes	2.00E+00	99.9992%	5.10



Results of the Study– Hot Cup

Test Device	Test Microorganism	Contact Time	CFU/Carrier	Percent Reduction Compared to Control at Time Zero	Log ₁₀ Reduction Compared to Control at Time Zero
Hot Cup	<i>S. aureus</i> ATCC 6538	Time Zero	7.90E+05	N/A	
		3 minutes	3.00E+00	99.9996%	5.42
	<i>S. enterica</i> ATCC 10708	Time Zero	1.38E+05	N/A	
		3 minutes	<1.00E+00	>99.9993%	>5.14

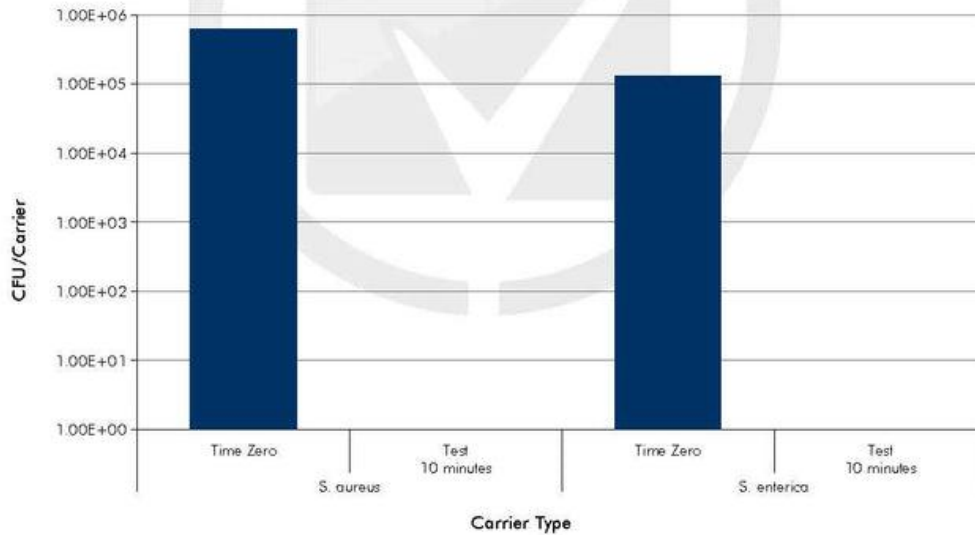
Note: The limit of detection for the table above is 1 CFU/Carrier. Values observed below the limit of detection are denoted as <1.00E+00 CFU/Carrier. The limit of detection is used to calculate percent and log reductions.



Results of the Study (cont.)– UV Oven Pro

Test Device	Test Microorganism	Contact Time	CFU/Carrier	Percent Reduction Compared to Control at Time Zero	Log ₁₀ Reduction Compared to Control at Time Zero
UV Oven Pro	<i>S. aureus</i> ATCC 6538	Time Zero	6.20E+05	N/A	
		10 minutes	1.00E+00	99.9998%	5.79
	<i>S. enterica</i> ATCC 10708	Time Zero	1.29E+05	N/A	
		10 minutes	<1.00E+00	>99.9992%	>5.11

Note: The limit of detection for the above sample is 1.00E+00 CFU/Carrier. Values observed below this limit are denoted as <1.00E+00 CFU/Carrier. The limit of detection is used to calculate percent and log reductions.



Results of the Study (cont.)– UV Light Stik

Test Device	Test Microorganism	Contact Time	CFU/Carrier	Percent Reduction Compared to Control at Time Zero	Log ₁₀ Reduction Compared to Control at Time Zero
UV Light Stik	<i>S. enterica</i> ATCC 10708	Time Zero	1.68E+05	N/A	
		90 seconds	2.30E+01	99.99%	3.86
	<i>T. interdigitale</i> ATCC 9533	Time Zero	1.80E+06	N/A	
		90 seconds	6.00E+00	99.9997%	5.48

