

FINAL REPORT

Bacterial Survival on PURE-LIGHT SANI-LIGHT
coated Glass Slides

Order Number:371809760

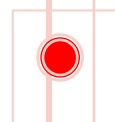
PREPARED FOR

PURE-LIGHT Technologies LLC

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7/5/2018

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CERTIFICATE OF ANALYSIS

CLIENT: PURE-LIGHT TECHNOLOGIES, LLC.

CONTACT: TROY BUTLER (***)***.*****

PROJECT: BACTERIAL SURVIVAL ON PURE-LIGHT SANI-LIGHT COATED GLASS SLIDES

PRODUCT: N/A

SAMPLE RECEIVED: PURE- LIGHT SANI-LIGHT COATED GLASS SLIDES

REPORT DATE: 7/5/18

CHALLENGE BACTERIA:

ESCHERICHIA COLI - ATCC 25922

SALMONELLA ENTERICA - ATCC 14028

METHICILLIN RESISTANT STAPHYLOCOCCUS AUREUS – ATCC 43300

I. EXPERIMENTAL SUMMARY

Glass slides coated with PURE-LIGHT SANI-LIGHT® solution were inoculated in triplicate with a suspension of Escherichia coli, Salmonella enterica, and methicillin-resistant Staphylococcus aureus. One group of slides was exposed to PURE-LIGHT coated LED light bulbs at counter and floor levels and another group was not exposed to the light also at counter and floor levels. All slides were tested after 24 hours to determine organism survival.



Uncoated control slides were tested using the same organisms under the same conditions as a baseline for comparison purposes.

II. PROCEDURE

Uncoated and client provided PURE-LIGHT SANI-LIGHT® coated glass slides were inoculated in triplicate with suspensions of *E. coli*, *S. enterica*, and methicillin-resistant *S. aureus* (MRSA). The slides were placed in a secure location at both counter height and floor level with one group exposed to PURE-LIGHT coated LED light bulbs and another group not exposed to the light for 24 hours. After 24 hours all slides were collected and plated onto TSA agar to determine organism survival.

III. EXPERIMENTAL RESULTS

PURE-LIGHT SANI-LIGHT® Coated Glass Slides

Initial (time zero) inoculum levels

Salmonella - 370,000,000 per slide

MRSA – 590,000,000 per slide

E. coli – 2,000,000 per slide



24 Hour Recovery

PURE-LIGHT SANI-LIGHT® Coated Slides with
light exposure-Counter Height

Test Organism	Treatment	CFU per sample (average)	Log Reduction	Percent Reduction
<i>Salmonella</i>	Uncoated control slides	20,000,000		
	PURE-LIGHT SANI-LIGHT® coated slides	11,000	3.26	99.95
MRSA	Uncoated control slides	48,000,000		
	PURE-LIGHT SANI-LIGHT® coated slides	49,000	2.99	99.9
<i>E. coli</i>	Uncoated control slides	<10000		
	PURE-LIGHT SANI-LIGHT® coated slides	<100	N/A	N/A

Pure- Light Coated Slides without light exposure-Counter Height

Test Organism	Treatment	CFU per sample (average)	Log Reduction	Percent Reduction
<i>Salmonella</i>	Uncoated control slides	6,000,000		
	PURE-LIGHT SANI-LIGHT® coated slides	10,000	2.79	99.83
MRSA	Uncoated control slides	18,000,000		
	PURE-LIGHT SANI-LIGHT® coated slides	60,000	2.48	99.67
<i>E. coli</i>	Uncoated control slides	10,000		



	PURE-LIGHT SANI-LIGHT® coated slides	<100	N/A	N/A
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Pure- Light Coated Slides with light exposure-Floor Level

Test Organism	Treatment	CFU per sample (average)	Log Reduction	Percent Reduction
<i>Salmonella</i>	Uncoated control slides	5,000,000		
	PURE-LIGHT SANI-LIGHT® coated slides	23,000	2.34	99.54
MRSA	Uncoated control slides	44,000,000		
	PURE-LIGHT SANI-LIGHT® coated slides	90,000	2.70	99.8
<i>E. coli</i>	Uncoated control slides	<10000		
	PURE-LIGHT SANI-LIGHT® coated slides	<100	N/A	N/A

Pure- Light Coated Slides without light exposure-Floor Level

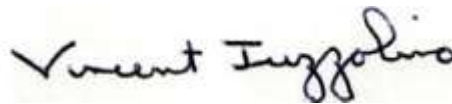
Test Organism	Treatment	CFU per sample (average)	Log Reduction	Percent Reduction
<i>Salmonella</i>	Uncoated control slides	2,000,000		
	PURE-LIGHT SANI-LIGHT® coated slides	60,000	1.53	97
MRSA	Uncoated control slides	9,000,000		
	PURE-LIGHT SANI-LIGHT® coated slides	50,000	2.6	99.4
<i>E. coli</i>	Uncoated control slides	<10,000		



PURE-LIGHT SANI-LIGHT® coated slides	<100	N/A	N/A
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IV. CONCLUSIONS/OBSERVATIONS

Bacterial reduction of Salmonella and MRSA inoculated onto the surfaces of PURE-LIGHT SANI-LIGHT® coated slides ranged from 97 to 99.9% when compared to the same organisms inoculated at the same levels onto uncoated slides and exposed to the same conditions. The greatest reduction was observed in the organism average of the slide group exposed to the PURE-LIGHT LED light bulbs at counter height (about 5 feet below light bulbs) while the least reduction was observed in the organism average of the slide group not exposed to the PURE-LIGHT LED light bulbs at Floor level. Reduction of E. coli could not be accurately determined as the recovery of the uncoated control slides at 24 hours was below detection limits. It appears the survivability of E. coli after 24 hours was very low regardless of the slide type the organism was inoculated on.



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Microbiology Laboratory Director

