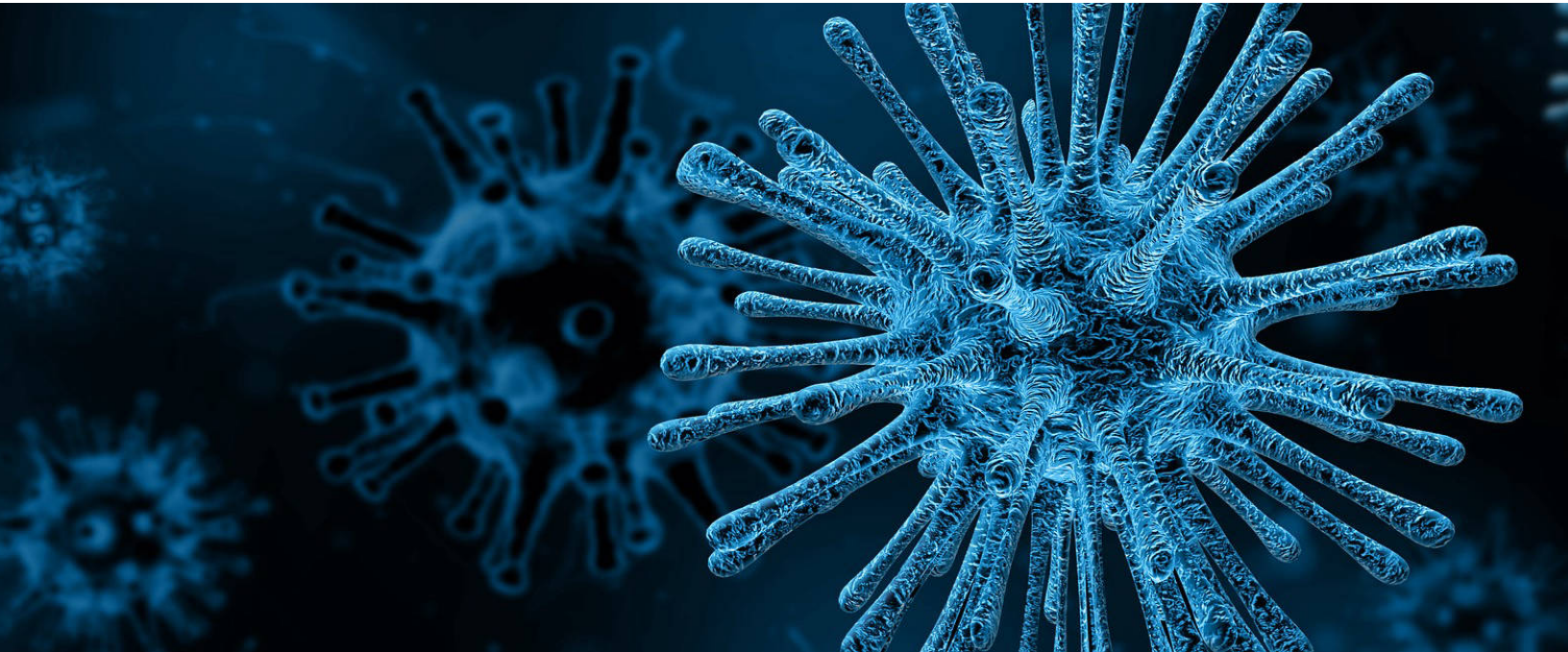




# Naturell

**SURFACE SHIELD**



## SURFACE SHIELD LABORATORY FINDINGS

Summary Prepared by: Mark Byron Lane, Ph.D. CE  
Nuturell Corporation / CEO  
September 21, 2020



Nuturrell submitted its formulation for our all-natural, organic, “Green” Non-Toxic Surface Shield to Sanders Laboratories.

Sanders Laboratories received twenty-four (24) samples of the Nuturrell Surface Shield, and these samples were treated with both gram-positive and gram-negative pathogens.<sup>1</sup> The **Treated Washed Panels** were panels where Nuturrell was applied and then washed using dish soap. The **Treated Panels** were panels where Nuturrell was applied and not washed.

Below is a summary of Sanders Laboratories’ findings fourteen (14) days after Nuturrell was applied to the surface to show the long-term efficacy of the product:

## 14 Day Laboratory Results

Gram Negative	cfu/cm	Percent Kill After 14 Days
Treated Washed Panels Inside	250,000	99.952%
Treated Panels Inside	250,000	99.992%
Treated Washed Panels Outside	250,000	90.4%
Treated Panels Outside	250,000	99.16%

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<sup>1</sup> Gram-positive and gram-negative and gram stain pathogens, include, but are not limited to, Staphylococcus, Streptococcus, Bacillus, and Listeria.

## 14 Day Laboratory Results

Gram Positive	cfu/cm	Percent Kill After 14 Days
Treated Washed Panels Inside	250,000	98.84%
Treated Panels Inside	250,000	99.972%
Treated Washed Panels Outside	250,000	94%
Treated Panels Outside	250,000	99.936%

Below is a summary of Sanders Laboratories' findings ninety (90) days after Nuturell was applied to the surface to show the long-term efficacy of the product:

## 90 Day Laboratory Results

Gram Negative	cfu/cm	Percent Kill After 90 Days
Treated Washed Panels Inside	250,000	97%
Treated Panels Inside	250,000	99.64%
Treated Washed Panels Outside	250,000	94.8%
Treated Panels Outside	250,000	96%

1. Gram-positive and gram-negative and gram stain pathogens, include, but are not limited to, Staphylococcus, Streptococcus, Bacillus, and Listeria.

# 90 Day Laboratory Results

Gram Positive	cfu/cm	Percent Kill After 90 Days
Treated Washed Panels Inside	250,000	97.6%
Treated Panels Inside	250,000	99.96%
Treated Washed Panels Outside	250,000	99.2%
Treated Panels Outside	250,000	99.36%

**14 Day Conclusion** ~ The findings of Sanders Laboratories shows that Nuturell Surface Shield keeps actively killing pathogens at an average rate of 99.9% inside and 99.5% outside for up to fourteen (14) days after Nuturell Surface Shield has been applied to a surface.

Further, the study shows even after Nuturell Surface Shield was applied to the surface, and then the surface was washed, Nuturell Surface Shield keeps actively killing pathogens at an average rate of 99.3% inside and 92.2% outside for up to fourteen (14) days.

**90 Day Conclusion** ~ The findings of Sanders Laboratories shows that Nuturell Surface Shield keeps actively killing pathogens at an average rate of 99.8% inside and 97.7% outside for up to ninety (90) days after Nuturell Surface Shield has been applied to a surface.

1. Gram-positive and gram-negative and gram stain pathogens, include, but are not limited to, Staphylococcus, Streptococcus, Bacillus, and Listeria.

## **Continued ~ 90 Day Conclusion**

Further, the study shows even after Nuturell Surface Shield was applied to the surface, and then the surface was washed, Nuturell Surface Shield keeps actively killing pathogens at an average rate of 97.3% inside and 97.1% outside for up to ninety (90) days.

The full report from Sanders Laboratories is enclosed herewith.

1. Gram-positive and gram-negative and gram stain pathogens, include, but are not limited to, Staphylococcus, Streptococcus, Bacillus, and Listeria.

TECHNICAL REPORT

For

Naturell Corporation  
8823 Napa Landing  
Boerne, Texas 78015

Mark Byron Lane, PhD.

ISO 22196

Measurement of Antibacterial Activity on Solid Surfaces

Treated Sheet Metal resistance to Escherichia coli  
and Staphylococcus aureus

**Report for Day 1 and Day 7**

Analysis performed by

John Limbach  
Microbiology Technical Director

Initiation Date: June 19, 2020

Completion Date: June 30, 2020

Sanders Laboratory Number 2006672 and 2006733

1. Materials submitted for Testing:

Control and Treated samples of sheet metal material had been received by Sanders Laboratories for ISO 22196 antibacterial activity testing.

- A. Untreated 3"x3" sheet metal (36 pieces)
- B. Treated 3"x3" sheet metal (36 pieces)

2. Significance and Use:

This international Standard specifies a method of evaluating the antimicrobial activity of antimicrobial-treated, non-porous plastic products (including intermediate Products). Any results obtained with this International Standard should always refer to this standard and the conditions used. Results obtained with this International Standard indicate antimicrobial activity under the specified experimental conditions used herein, and do not reflect activity under other circumstances where a variety of factors, such as temperature, humidity, different bacterial or mold species, nutrient conditions, etc., have to be considered. A minimum diffusion of the antimicrobial agent/chemicals into the test inoculum is normally necessary with this procedure.

3. Procedure:

Pre-culture of bacteria. The *Escherichia coli* (ATCC #25922) and *Staphylococcus aureus* (ATCC #6538) were cultured on BHI (Brain Heart Infusion) Agar slants from the laboratory stock cultures. After 24 hours of cultivation, each was transferred to a second BHI Agar slant and cultured for an additional 22 hours.

Preparation of test specimens: Each plastic sample was handled with latex gloves to prevent finger prints and was cleaned with a sterile cloth and sterile DI water to remove most traces of bacteria. The use of heat or alcohol sterilization was avoided as the surface coating may have been compromised.

Inoculation of the test specimens: A 3 inch x 3 inch square of the sheet metal was placed in a sterile petri dish and a 0.4mL aliquot of the test inoculum was placed in the center of the surface of the specimen. The *E. coli* inoculum had a viable count of  $2.5 \times 10^5$  colony forming units (cfu)/mL. The *Staphylococcus aureus* inoculum had a viable count of  $7 \times 10^5$  cfu/mL.

The 0.4 mL aliquot of the test inoculum was into 10 mL of phosphate buffer and initial pour plate counts were determined. A 1 inch x 1 inch square sterile film (2/1000 inch thick) was placed upon each 0.4 mL drop to prevent evaporation and

maintain equal test exposure areas of 1 square inch. The petri dish lids were replaced to help prevent evaporative losses.

Incubation of the inoculated test specimens: Each sample was incubated at room temperature of 77° F (25° C) for 1 hour and 4 hours. Each sample was then washed with 10 mL of phosphate buffer and pour plate counts were determined.

<b><u>Sample ID For Day 1</u></b>	<b><u>cfu/cm<sup>2</sup></u></b>	<b><u>% Kill</u></b>	<b><u>Antibacterial Activity</u></b>
<b>Escherichia coli</b>			
<u>Untreated Metal - Inside</u>			
Initial count	250,000	---	---
1 hour count	9,800	96.08	1.40
4 hour count	0	100.00	5.39
<u>Treated Metal - Inside</u>			
Initial count	250,000	---	---
1 hour count	0	100.00	5.39
4 hour count	0	100.00	5.39
<u>Untreated Metal – Outside</u>			
Initial count	250,000	---	
1 hour count	28,000	88.80	0.91
4 hour count	2,300	99.08	2.03
<u>Treated Metal – Outside</u>			
Initial count	250,000		
1 hour count	5,900	97.64	1.62
4 hour count	8	99.99	4.49
<b>Staphylococcus aureus</b>			
<u>Untreated Metal - Inside</u>			
Initial count	250,000	---	
1 hour count	120,000	52.00	0.31
4 hour count	300	99.88	2.91
<u>Treated Metal - Inside</u>			
Initial count	250,000	---	
1 hour count	28,000	88.80	0.94
4 hour count	45	99.98	3.74
<u>Untreated Metal – Outside</u>			



Initial count	250,000		
1 hour count	110,000	56.00	0.35
4 hour count	5,500	97.80	1.65
<u>Treated Metal – Outside</u>			
Initial count	250,000		
1 hour count	16,000	93.6	1.19
4 hour count	2,000	99.20	2.09
<b><u>Sample ID For Day 7</u></b>	<u>cfu/cm<sup>2</sup></u>	<u>% Kill</u>	<u>Antibacterial Activity</u>
<b>Escherichia coli</b>			
<u>Untreated Metal - Inside</u>			
Initial count	250,000	---	---
1 hour count	130,000	48.00	0.28
4 hour count	120	99.95	3.31
<u>Treated Metal - Inside</u>			
Initial count	250,000	---	---
1 hour count	8,400	96.64	2.10
4 hour count	20	99.99	4.09
<u>Untreated Metal – Outside</u>			
Initial count	250,000	---	
1 hour count	50,000	80.00	0.70
4 hour count	24,000	90.40	1.01
<u>Treated Metal – Outside</u>			
Initial count	250,000		
1 hour count	160,000	36.00	0.70
4 hour count	4,600	98.16	1.73
<b>Staphylococcus aureus</b>			
<u>Untreated Metal - Inside</u>			
Initial count	250,000	---	
1 hour count	110,000	56.00	0.35
4 hour count	2,900	98.84	1.93
<u>Treated Metal - Inside</u>			
Initial count	250,000	---	
1 hour count	6,900	97.24	1.56
4 hour count	70	99.97	3.55

Untreated Metal – Outside

Initial count	250,000		
1 hour count	30,000	88.00	0.92
4 hour count	15,000	94.00	1.22

Treated Metal – Outside

Initial count	250,000		
1 hour count	100,000	60.00	0.39
4 hour count	160	99.94	3.19

Calculate the “Antibacterial Activity”: This is the difference in the logarithm of the viable cell count found on an antimicrobial-treated product and an untreated product after inoculation with and incubation of the bacteria. The following equation is used:  $R = (U_t - U_o) - (A_t - U_o) = U_t - A_t$

Where: R = the “Antibacterial Activity”

$U_o$  = the average of the common logarithm of the number of viable bacteria (bacteria/cm<sup>2</sup>) recovered from the untreated test specimens immediately after inoculation.

$U_t$  = the average of the common logarithm of the number of viable bacteria (bacteria/cm<sup>2</sup>) recovered from the untreated test specimens after 1 hour and 4 hours of incubation.

$A_t$  = the average of the common logarithm of the number of viable bacteria (bacteria/cm<sup>2</sup>) recovered from the treated test specimens after 1 hour and 4 hours of incubation.

<u>Antibacterial Activity</u>	<u>%Kill Compared to control</u>	<u>Comment</u>
<1.5	<96.8	poor
1.5 to 2.0	96.8 to 99.0	borderline
2.0 to 3.0	99.0 to 99.9	good
>3.0	>99.9	excellent

4.0 Conclusions:

- A. Day 1 inside samples tested with Escherichia coli for 4 hours. Untreated sheet metal had 100% kill. Treated sheet metal had 100% kill. Neither the untreated sheet metal nor the treated sheet metal showed any sign of physical degradation.
- B. Day 1 outside samples tested with Escherichia coli for 4 hours. Untreated sheet metal had 99.08% kill. Treated sheet metal had 99.99% kill. Neither the untreated sheet metal nor the treated sheet metal showed any sign of physical degradation.

- C. Day 1 inside samples tested with *Staphylococcus aureus* for 4 hours.  
Untreated sheet metal had 99.88% kill. Treated sheet metal had 99.98% kill. Neither the untreated sheet metal nor the treated sheet metal showed any sign of physical degradation.
- D. Day 1 outside samples tested with *Staphylococcus aureus* for 4 hours.  
Untreated sheet metal had 97.80% kill. Treated sheet metal had 99.20% kill. Neither the untreated sheet metal nor the treated sheet metal showed any sign of physical degradation.
- E. Day 7 inside samples tested with *Escherichia coli* for 4 hours. Untreated sheet metal had 99.95% kill. Treated sheet metal had 99.99% kill. Neither the untreated sheet metal nor the treated sheet metal showed any sign of physical degradation following 7 days inside.
- F. Day 7 outside samples tested with *Escherichia coli* for 4 hours. Untreated sheet metal had 90.40% kill. Treated sheet metal had 98.16% kill. Neither the untreated sheet metal nor the treated sheet metal showed any sign of physical degradation following 7 days outside.
- G. Day 7 inside samples tested with *Staphylococcus aureus* for 4 hours.  
Untreated sheet metal had 98.84% kill. Treated sheet metal had 99.97% kill. Neither the untreated sheet metal nor the treated sheet metal showed any sign of physical degradation
- H. Day 7 outside samples tested with *Staphylococcus aureus* for 4 hours.  
Untreated sheet metal had 94.00% kill. Treated sheet metal had 99.94% kill. Neither the untreated sheet metal nor the treated sheet metal showed any sign of physical degradation following 7 days outside.



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Website: www.sanderslabs.net*

June 30, 2020

Mark Lane  
Nuturell Corporation  
8823 Napa Landing  
Boerne, TX 78015  
TEL: (210) 605-5627  
FAX:

RE: Antimicrobial Testing

Order No.: 2006733

Dear Mark Lane:

Sanders Laboratories, Inc received 24 sample(s) on 6/17/2020 for the analyses presented in the following report.

These results only pertain to the samples as received. These pages may include, but are not limited to: Analytical Data, Chains of Custodies, Subcontracted Data and Case Narratives for samples. Results relate only to the samples in the report.

Reports are archived for a minimum of 5 years. Copies of reports are available for a fee of \$50.00. Copies will be provided within 2 weeks of the time of the request. Laboratory PQL's are available upon request.

Test results meet all the requirements of the NELAP standards, unless otherwise noted.  
Nokomis Certificate # E84380 Fort Myers Certificate # E85457

A statement of estimated uncertainty of results is available upon request.  
Laboratory report shall not be reproduced except in full, without the written approval of Sanders Laboratories.

Sanders Laboratories follows DEP standard operating procedures for field sampling, unless otherwise noted.

A handwritten signature in blue ink, appearing to read "Katie".

Katie Strothman  
Laboratory Director



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## **Definition Only**

WO#: 2006733  
Date: 6/30/2020

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### **Definitions:**

B: Results based upon colony counts outside the acceptable range.

G: Sample value indicates that the analyte was detected at or above the method detection limit in both the sample and the associated field blank, equipment blank, or trip blank, and the blank value was greater than 10% of the associated sample value. The value in the blank shall not be subtracted from associated samples.

I: The reported value is greater than or equal to the laboratory MDL but less than the laboratory PQL.

J: Estimated Value.

J7: Excessive amounts of Sodium Sulfite used to dechlorinate the sample due to high levels of chlorine present.

K: Off scale low, actual value is known to be less than the value given.

L: Off scale high, actual value is known to be greater than the value given.

NC: Not Certified. Parameter was ran but is not covered under laboratory accredited scopes.

Q: Sample held beyond acceptable holding time.

U: The compound was analyzed for, but not detected.

V: Indicates that the analyte was detected at or above the MDL in both the sample and the associated method blank and the value of 10 times the blank value was equal to or greater than the associated sample value.

Y: The laboratory analysis was from an improperly preserved sample.

Z: Too many colonies were present for accurate counting.



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# Analytical Report

(continuous)

WO#: **2006733**

Date Reported: **6/30/2020**

**CLIENT:** Nuturell Corporation

**Lab Order:** 2006733

**Project:** Antimicrobial Testing

**Lab ID:** 2006733-001

**Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Inside Untreated - Init E.coli count

**Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE** **ISO 22196** Analyst: JL

Antibacterial Activity	250,000	10,000		CFU/Sq. inch	1	6/26/2020 10:00:00 AM
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**Lab ID:** 2006733-002

**Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Inside Untreated - 1hr E.coli count

**Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE** **ISO 22196** Analyst: JL

Antibacterial Activity	130,000	10,000		CFU/Sq. inch	1	6/26/2020 10:00:00 AM
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**Lab ID:** 2006733-003

**Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Inside Untreated - 4hr E.coli count

**Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE** **ISO 22196** Analyst: JL

Antibacterial Activity	120	1.00		CFU/Sq. inch	1	6/26/2020 10:00:00 AM
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<b>Qualifiers:</b>	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	PL	Permit Limit	RL	Reporting Detection Limit
	W	Sample container temperature is out of limit as specified at testcode		



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 Website: www.sanderslabs.net

# Analytical Report

(continuous)

WO#: **2006733**

Date Reported: **6/30/2020**

**CLIENT:** Nuturell Corporation  
**Project:** Antimicrobial Testing

**Lab Order:** 2006733

**Lab ID:** 2006733-004 **Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Inside Treated - Init E.coli count **Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE** **ISO 22196** Analyst: **JL**

Antibacterial Activity	250,000	1,000		CFU/Sq. inch	1	6/26/2020 10:00:00 AM
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**Lab ID:** 2006733-005 **Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Inside Treated - 1hr E.coli count **Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE** **ISO 22196** Analyst: **JL**

Antibacterial Activity	8,400	100		CFU/Sq. Inch	1	6/26/2020 10:00:00 AM
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**Lab ID:** 2006733-006 **Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Inside Treated - 4hr E.coli count **Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE** **ISO 22196** Analyst: **JL**

Antibacterial Activity	20.0	1.00		CFU/Sq. Inch	1	6/26/2020 10:00:00 AM
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<b>Qualifiers:</b>	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	PL	Permit Limit	RL	Reporting Detection Limit
	W	Sample container temperature is out of limit as specified at testcode		



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# Analytical Report

(continuous)

WO#: 2006733

Date Reported: 6/30/2020

**CLIENT:** Nuturell Corporation  
**Project:** Antimicrobial Testing

**Lab Order:** 2006733

**Lab ID:** 2006733-007 **Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Outside Untreated - Init E.coli count **Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE** **ISO 22196** Analyst: JL

Antibacterial Activity	250,000	10,000		CFU/Sq. Inch	1	6/26/2020 10:00:00 AM
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**Lab ID:** 2006733-008 **Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Outside Untreated - 1hr E.coli count **Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE** **ISO 22196** Analyst: JL

Antibacterial Activity	50,000	10,000		CFU/Sq. Inch	1	6/26/2020 10:00:00 AM
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**Lab ID:** 2006733-009 **Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Outside Untreated - 4hr E.coli count **Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE** **ISO 22196** Analyst: JL

Antibacterial Activity	24,000	100		CFU/Sq. Inch	1	6/26/2020 10:00:00 AM
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**Qualifiers:** H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
 PL Permit Limit RL Reporting Detection Limit  
 W Sample container temperature is out of limit as specified at testcode





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# Analytical Report

(continuous)

WO#: **2006733**

Date Reported: **6/30/2020**

**CLIENT:** Nuturell Corporation  
**Project:** Antimicrobial Testing

**Lab Order:** 2006733

**Lab ID:** 2006733-010 **Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Outside Treated - Init E.coli count **Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE** **ISO 22196** Analyst: **JL**

Antibacterial Activity	250,000	10,000		CFU/Sq. Inch	1	6/26/2020 10:00:00 AM
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**Lab ID:** 2006733-011 **Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Outside Treated - 1hr E.coli count **Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE** **ISO 22196** Analyst: **JL**

Antibacterial Activity	160,000	10,000		CFU/Sq. Inch	1	6/26/2020 10:00:00 AM
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**Lab ID:** 2006733-012 **Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Outside Treated - 4hr E.coli count **Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE** **ISO 22196** Analyst: **JL**

Antibacterial Activity	4,600	100		CFU/Sq. Inch	1	6/26/2020 10:00:00 AM
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<b>Qualifiers:</b>	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	PL	Permit Limit	RL	Reporting Detection Limit
	W	Sample container temperature is out of limit as specified at testcode		



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# Analytical Report

(continuous)

WO#: **2006733**

Date Reported: **6/30/2020**

**CLIENT:** Nuturell Corporation

**Lab Order:** 2006733

**Project:** Antimicrobial Testing

**Lab ID:** 2006733-013

**Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Inside Untreated - Init Staph count

**Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE** **ISO 22196** Analyst: **JL**

Antibacterial Activity	250,000	10,000		CFU/Sq. Inch	1	6/26/2020 10:00:00 AM
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**Lab ID:** 2006733-014

**Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Inside Untreated - 1hr Staph count

**Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE** **ISO 22196** Analyst: **JL**

Antibacterial Activity	110,000	10,000		CFU/Sq. Inch	1	6/26/2020 10:00:00 AM
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**Lab ID:** 2006733-015

**Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Inside Untreated - 4hr Staph count

**Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE** **ISO 22196** Analyst: **JL**

Antibacterial Activity	2,900	100		CFU/Sq. Inch	1	6/26/2020 10:00:00 AM
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<b>Qualifiers:</b>	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	PL	Permit Limit	RL	Reporting Detection Limit
	W	Sample container temperature is out of limit as specified at testcode		



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# Analytical Report

(continuous)

WO#: 2006733

Date Reported: 6/30/2020

**CLIENT:** Nuturell Corporation  
**Project:** Antimicrobial Testing

**Lab Order:** 2006733

**Lab ID:** 2006733-016 **Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Inside Treated - Init Staph count **Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE** **ISO 22196** Analyst: JL

Antibacterial Activity	250,000	10,000		CFU/Sq. Inch	1	6/26/2020 10:00:00 AM
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**Lab ID:** 2006733-017 **Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Inside Treated - 1hr Staph count **Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE** **ISO 22196** Analyst: JL

Antibacterial Activity	6,900	100		CFU/Sq. Inch	1	6/26/2020 10:00:00 AM
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**Lab ID:** 2006733-018 **Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Inside Treated - 4hr Staph count **Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE** **ISO 22196** Analyst: JL

Antibacterial Activity	70.0	1.00		CFU/Sq. Inch	1	6/26/2020 10:00:00 AM
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<b>Qualifiers:</b>	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	PL	Permit Limit	RL	Reporting Detection Limit
	W	Sample container temperature is out of limit as specified at testcode		



Ft. Myers Lab02  
 10090 Bavaria Rd.  
 Fort Myers, FL 33913  
 TEL: (239) 590-0337 FAX: (239) 590-0536  
 Website: www.sanderslabs.net

# Analytical Report

(continuous)

WO#: **2006733**

Date Reported: **6/30/2020**

**CLIENT:** Nuturell Corporation

**Lab Order:** 2006733

**Project:** Antimicrobial Testing

**Lab ID:** 2006733-019

**Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Outside Untreated - Init Staph count

**Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE** **ISO 22196** Analyst: **JL**

Antibacterial Activity	250,000	10,000		CFU/Sq. Inch	1	6/26/2020 10:00:00 AM
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**Lab ID:** 2006733-020

**Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Outside Untreated - 1hr Staph count

**Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE** **ISO 22196** Analyst: **JL**

Antibacterial Activity	30,000	10,000		CFU/Sq. Inch	1	6/26/2020 10:00:00 AM
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**Lab ID:** 2006733-021

**Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Outside Untreated - 4hr Staph count

**Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE** **ISO 22196** Analyst: **JL**

Antibacterial Activity	15,000	100		CFU/Sq. Inch	1	6/26/2020 10:00:00 AM
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<b>Qualifiers:</b>	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	PL	Permit Limit	RL	Reporting Detection Limit
	W	Sample container temperature is out of limit as specified at testcode		



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 Fort Myers, FL 33913  
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 Website: www.sanderslabs.net

# Analytical Report

(continuous)

WO#: **2006733**

Date Reported: **6/30/2020**

**CLIENT:** Nuturell Corporation  
**Project:** Antimicrobial Testing

**Lab Order:** 2006733

**Lab ID:** 2006733-022 **Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Outside Treated - Init Staph count **Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE** **ISO 22196** Analyst: **JL**

Antibacterial Activity	250,000	10,000		CFU/Sq. Inch	1	6/26/2020 10:00:00 AM
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**Lab ID:** 2006733-023 **Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Outside Treated - 1hr Staph count **Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE** **ISO 22196** Analyst: **JL**

Antibacterial Activity	100,000	10,000		CFU/Sq. inch	1	6/26/2020 10:00:00 AM
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**Lab ID:** 2006733-024 **Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Outside Treated - 4hr Staph count **Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE** **ISO 22196** Analyst: **JL**

Antibacterial Activity	160	1.00		CFU/Sq. inch	1	6/26/2020 10:00:00 AM
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<b>Qualifiers:</b>	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	PL	Permit Limit	RL	Reporting Detection Limit
	W	Sample container temperature is out of limit as specified at testcode		



CHAIN OF CUSTODY RECORD

Project #  
(Lab Use Only)

Project Name: 90 day efficacy

Project Location:

Customer Type:

Kit #:

Requested Due Date:

Analysis Requested

Client: Nuturell Corporation

Report To: Mark Byron Lane PhD.

E-mail: [mark@nuturell.com](mailto:mark@nuturell.com)

Address: 8823 Napa Landing

Bill to:

Boerne Texas 78015

P.O. #

Phone: 210-605-5627

Preservative: HCL = H, HNO<sub>3</sub> = N, Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> = ST

Fax:

H<sub>2</sub>SO<sub>4</sub> = S, NaOH = SH, NH<sub>4</sub>Cl = NH

Sampled By (PRINT)

MARK LANE

Sampler Signature

Preservatives

Sample

MRES

Matrix	Sample Description	Date	Time	Type	pH	Ice												
	72 metal plates with Nuturell disinfectant	Day 7																
	Inside untreated Init Ecoli count																	1
	Inside untreated 1hr Ecoli count																	2
	Inside untreated 4hr Ecoli count																	3
	Inside treated Init Ecoli count																	4
	Inside treated 1hr Ecoli count																	5
	Inside treated 4hr Ecoli count																	6

State Lot #	Comments	Relinquished By/Affiliation	Date	Time	Accepted By/Affiliation	Date
	Okay to Run As Is	UPS 12 888 OYW 02/16/12 507				
	Client Initial:				N/A Kim	6/12/12 11:30

Page 2 of 4  
2006733



CHAIN OF CUSTODY RECORD

Project #  
(Lab Use Only)

Client: Nuturell Corporation  
Address: 8823 Napa Landing  
Boerne Texas 78015  
Phone: 210-605-5627  
Fax:

Report To: Mark Byron Lane PhD.  
E-mail: mark@nuturell.com  
Bill to:  
P.O. #

Project Name: 90 day efficacy  
Project Location:  
Customer Type:  
Kit #:

Preservative: HCL = H, HNO<sub>3</sub> = N, Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> = ST

Requested Due Date:

H<sub>2</sub>SO<sub>4</sub> = S, NaOH = SH, NH<sub>4</sub>Cl = NH

Analysis Requested

Sampled By (PRINT)  
MARK LANE  
Sampler Signature

Preservatives

Sample

Matrix	Sample Description	Date	Time	Type	pH	Ice												
	72 metal plates with Nuturell disinfectant	Day 7																
	Outside untreated Tilt Ecolicourt																	7
	Outside untreated 4hr Ecolicourt																	8
	Outside untreated 4hr Ecolicourt																	9
	Outside untreated Tilt Ecolicourt																	10
	Outside untreated 4hr Ecolicourt																	11
	Outside untreated 4hr Ecolicourt																	12

Scale Lot #	Comments	Relinquished By/Affiliation	Date	Time	Accepted By/Affiliation	Date
	Okay to Run As Is	UPS 12 889 CYW 02/16/12 507				
	Client Initial:				N/A	6/12/12 11:30

page 3 of 4

2006 733



CHAIN OF CUSTODY RECORD

Project #  
(Lab Use Only)

Client: Nuturell Corporation  
Address: 8823 Napa Landing  
Boerne Texas 78015

Report To: Mark Byron Lane PhD.  
E-mail: mark@nuturell.com  
Bill to:  
P.O. #

Project Name: 90 day efficacy  
Project Location:  
Customer Type:  
Kit #:

Phone: 210-605-5627  
Fax:

Preservative: HCL = H, HNO<sub>3</sub> = N, Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> = ST  
H<sub>2</sub>SO<sub>4</sub> = S, NaOH = SH, NH<sub>4</sub>Cl = NH

Requested Due Date:

Analysis Requested

Sampled By (PRINT)  
*MARK LANE*  
Sampler Signature  
*[Signature]*

Preservatives

Sample

Matrix	Sample Description	Date	Time	Type	pH	Ice												
	72 metal plates with Nuturell disinfectant	Day 7																
	Inside untreated Irit step count																	13
	Inside untreated 4th step count																	14
	Inside untreated 4th step count																	15
	Inside treated Irit step count																	16
	Inside treated 4th step count																	17
	Inside treated 4th step count																	18

Colle Lot #	Comments	Relinquished By/Affiliation	Date	Time	Accepted By/Affiliation	Date
	Okay to Run As Is	UPS 12 889 0YW 02 16/1 2007				
	Client Initial:				N/A	6/16/07 11:30



Page 4 of 4  
2006 733



CHAIN OF CUSTODY RECORD

Project #	
(Lab Use Only)	

Client:	Nutrell Corporation	Report To:	Mark Byron Lane PhD.	Project Name:	90 day efficacy
Address:	8823 Napa Landing	E-mail:	mark@nutrell.com	Project Location:	
	Boerne Texas 78015	Bill to:		Customer Type:	
Phone:	210-605-5627	P.O. #		Kit #:	

Fax:		Preservative:	HCL = H, HNO <sub>3</sub> = N, Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> = ST	Requested Due Date:	
			H <sub>2</sub> SO <sub>4</sub> = S, NaOH = SH, NH <sub>4</sub> Cl = NH	Analysis Requested	

Sampled By (PRINT)  
*MARK LANE*  
Sampler Signature  
*[Signature]*

Date	Time	Type	pH	Ice	Preservatives		17	20	21	22	23	24
		72 metal plates with Nutrell disinfect										
		<i>Day 7</i>										
		<i>outside treated Irit Staph count</i>										
		<i>outside treated Irit Staph count</i>										
		<i>outside treated Irit Staph count</i>										
		<i>outside treated Irit Staph count</i>										
		<i>outside treated Irit Staph count</i>										
		<i>outside treated Irit Staph count</i>										

Bole Lot #	Comments	Relinquished By/Affiliation	Date	Time	Accepted By/Affiliation	Date
	Okay to Run As Is	UPS 12 889 OYWOZ/6/2507				
	Client Initial:				<i>[Signature]</i>	<i>[Signature]</i>



Nokomis Lab01  
1050 Endeavor Court  
Nokomis, FL 34275  
TEL: (941) 234-1000 FAX: (941) 484-6774  
Website: www.sanderslabs.net

September 21, 2020

Mark Lane  
Nuturell Corp. Nuturell Corporation  
8823 Napa Landing  
Boerne, TX 78015  
TEL: (210) 605-5627  
FAX:

RE: Antimicrobial Testing

Order No.: 2006735

Dear Mark Lane:

Sanders Laboratories, Inc received 24 sample(s) on 6/17/2020 for the analyses presented in the following report.

These results only pertain to the samples as received. These pages may include, but are not limited to: Analytical Data, Chains of Custodies, Subcontracted Data and Case Narratives for samples. Results relate only to the samples in the report.

Reports are archived for a minimum of 5 years. Copies of reports are available for a fee of \$50.00. Copies will be provided within 2 weeks of the time of the request. Laboratory PQL's are available upon request.

Test results meet all the requirements of the NELAP standards, unless otherwise noted.  
Nokomis Certificate # E84380 Fort Myers Certificate # E85457

A statement of estimated uncertainty of results is available upon request.  
Laboratory report shall not be reproduced except in full, without the written approval of Sanders Laboratories.

Sanders Laboratories follows DEP standard operating procedures for field sampling, unless otherwise noted.

A handwritten signature in blue ink, appearing to read "Jeff Walsh".

Jeff Walsh  
Operations Manager



Nokomis Lab01  
1050 Endeavor Court  
Nokomis, FL 34275  
TEL: (941) 234-1000 FAX: (941) 484-6774  
Website: www.sanderslabs.net

## Definition Only

WO#: 2006735  
Date: 9/21/2020

---

### Definitions:

B: Results based upon colony counts outside the acceptable range.

G: Sample value indicates that the analyte was detected at or above the method detection limit in both the sample and the associated field blank, equipment blank, or trip blank, and the blank value was greater than 10% of the associated sample value. The value in the blank shall not be subtracted from associated samples.

I: The reported value is greater than or equal to the laboratory MDL but less than the laboratory PQL.

J: Estimated Value.

J7: Excessive amounts of Sodium Sulfite used to dechlorinate the sample due to high levels of chlorine present.

K: Off scale low, actual value is known to be less than the value given.

L: Off scale high, actual value is known to be greater than the value given.

NC: Not Certified. Parameter was ran but is not covered under laboratory accredited scopes.

Q: Sample held beyond acceptable holding time.

U: The compound was analyzed for, but not detected.

V: Indicates that the analyte was detected at or above the MDL in both the sample and the associated method blank and the value of 10 times the blank value was equal to or greater than the associated sample value.

Y: The laboratory analysis was from an improperly preserved sample.

Z: Too many colonies were present for accurate counting.

---

Original



Nokomis Lab01  
 1050 Endeavor Court  
 Nokomis, FL 34275  
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 Website: www.sanderslabs.net

# Analytical Report

(continuous)

WO#: 2006735

Date Reported: 9/21/2020

**CLIENT:** Nuturell Corp.Naturell Corporation

**Lab Order:** 2006735

**Project:** Antimicrobial Testing

**Lab ID:** 2006735-001

**Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Inside Untreated - Init E.coli count

**Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE** **ISO 22196** Analyst: JL

Antibacterial Activity	250,000	10,000		CFU/sq. inch	1	9/19/2020 11:00:00 AM
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**Lab ID:** 2006735-002

**Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Inside Untreated - 1hr E.coli count

**Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE** **ISO 22196** Analyst: JL

Antibacterial Activity	130,000	10,000		CFU/sq. inch	1	9/19/2020 11:00:00 AM
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**Lab ID:** 2006735-003

**Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Inside Untreated - 4hr E.coli count

**Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE** **ISO 22196** Analyst: JL

Antibacterial Activity	7,500	100		CFU/sq. inch	1	9/19/2020 11:00:00 AM
------------------------	-------	-----	--	--------------	---	-----------------------

98% Complete

<b>Qualifiers:</b>	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	PL	Permit Limit	RL	Reporting Detection Limit
	W	Sample container temperature is out of limit as specified at testcode		



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 Website: www.sanderslabs.net

# Analytical Report

(continuous)

WO#: 2006735

Date Reported: 9/21/2020

**CLIENT:** Nuturell Corp.Naturell Corporation

**Lab Order:** 2006735

**Project:** Antimicrobial Testing

**Lab ID:** 2006735-004

**Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Inside Treated - Init E.coli count

**Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE** **ISO 22196** Analyst: JL

Antibacterial Activity	250,000	10,000		CFU/sq. inch	1	9/19/2020 11:00:00 AM
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**Lab ID:** 2006735-005

**Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Inside Treated - 1hr E.coli count

**Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE** **ISO 22196** Analyst: JL

Antibacterial Activity	30,000	10,000		CFU/sq. inch	1	9/19/2020 11:00:00 AM
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**Lab ID:** 2006735-006

**Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Inside Treated - 4 hr E.coli count

**Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE** **ISO 22196** Analyst: JL

Antibacterial Activity	900	100		CFU/sq. inch	1	9/19/2020 11:00:00 AM
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99.999% Complete

<b>Qualifiers:</b>	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	PL	Permit Limit	RL	Reporting Detection Limit
	W	Sample container temperature is out of limit as specified at testcode		



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 Website: www.sanderslabs.net

# Analytical Report

(continuous)

WO#: 2006735

Date Reported: 9/21/2020

**CLIENT:** Nuturell Corp.Naturell Corporation

**Lab Order:** 2006735

**Project:** Antimicrobial Testing

**Lab ID:** 2006735-007

**Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Outside Untreated - Init E.coli count

**Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE**

ISO 22196

Analyst: JL

Antibacterial Activity	250,000	10,000		CFU/sq. inch	1	9/19/2020 11:00:00 AM
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**Lab ID:** 2006735-008

**Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Outside Untreated - 1hr E.coli count

**Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE**

ISO 22196

Analyst: JL

Antibacterial Activity	120,000	10,000		CFU/sq. inch	1	9/19/2020 11:00:00 AM
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**Lab ID:** 2006735-009

**Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Outside Untreated - 4hr E.coli count

**Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE**

ISO 22196

Analyst: JL

Antibacterial Activity	13,000	100		CFU/sq. inch	1	9/19/2020 11:00:00 AM
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94.97% Complete

<b>Qualifiers:</b>	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	PL	Permit Limit	RL	Reporting Detection Limit
	W	Sample container temperature is out of limit as specified at testcode		



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 Nokomis, FL 34275  
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 Website: www.sanderslabs.net

# Analytical Report

(continuous)

WO#: 2006735

Date Reported: 9/21/2020

**CLIENT:** Nuturell Corp.Naturell Corporation

**Lab Order:** 2006735

**Project:** Antimicrobial Testing

**Lab ID:** 2006735-010

**Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Outside Treated - Init E.coli count

**Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE**

ISO 22196

Analyst: JL

Antibacterial Activity	250,000	10,000		CFU/sq. inch	1	9/19/2020 11:00:00 AM
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**Lab ID:** 2006735-011

**Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Outside Treated - 1hr E.coli count

**Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE**

ISO 22196

Analyst: JL

Antibacterial Activity	40,000	10,000		CFU/sq. inch	1	9/19/2020 11:00:00 AM
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**Lab ID:** 2006735-012

**Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Outside Treated - 4hr E.coli count

**Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE**

ISO 22196

Analyst: JL

Antibacterial Activity	10,000	100		CFU/sq. inch	1	9/19/2020 11:00:00 AM
------------------------	--------	-----	--	--------------	---	-----------------------

96% Complete

<b>Qualifiers:</b>	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	PL	Permit Limit	RL	Reporting Detection Limit
	W	Sample container temperature is out of limit as specified at testcode		



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 Website: www.sanderslabs.net

# Analytical Report

(continuous)

WO#: 2006735

Date Reported: 9/21/2020

**CLIENT:** Nuturell Corp.Naturell Corporation

**Lab Order:** 2006735

**Project:** Antimicrobial Testing

**Lab ID:** 2006735-013

**Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Inside Untreated - Init Staph count

**Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE**

ISO 22196

Analyst: JL

Antibacterial Activity	250,000	10,000		CFU/sq. inch	1	9/19/2020 11:00:00 AM
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**Lab ID:** 2006735-014

**Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Inside Untreated - 1hr Staph count

**Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE**

ISO 22196

Analyst: JL

Antibacterial Activity	140,000	10,000		CFU/sq. inch	1	9/19/2020 11:00:00 AM
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**Lab ID:** 2006735-015

**Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Inside Untreated - 4hr Staph count

**Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE**

ISO 22196

Analyst: JL

Antibacterial Activity	6,000	100		CFU/sq. inch	1	9/19/2020 11:00:00 AM
------------------------	-------	-----	--	--------------	---	-----------------------

97.6% Complete

<b>Qualifiers:</b>	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	PL	Permit Limit	RL	Reporting Detection Limit
	W	Sample container temperature is out of limit as specified at testcode		





Nokomis Lab01  
 1050 Endeavor Court  
 Nokomis, FL 34275  
 TEL: (941) 234-1000 FAX: (941) 484-6774  
 Website: www.sanderslabs.net

# Analytical Report

(continuous)

WO#: 2006735

Date Reported: 9/21/2020

**CLIENT:** Nuturell Corp.Naturell Corporation

**Lab Order:** 2006735

**Project:** Antimicrobial Testing

**Lab ID:** 2006735-016

**Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Inside Treated - Init Staph count

**Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE**

ISO 22196

Analyst: JL

Antibacterial Activity	250,000	10,000		CFU/sq. inch	1	9/19/2020 11:00:00 AM
------------------------	---------	--------	--	--------------	---	-----------------------

**Lab ID:** 2006735-017

**Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Inside Treated - 1hr Staph count

**Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE**

ISO 22196

Analyst: JL

Antibacterial Activity	80,000	10,000		CFU/sq. inch	1	9/19/2020 11:00:00 AM
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**Lab ID:** 2006735-018

**Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Inside Treated - 4hr Staph count

**Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE**

ISO 22196

Analyst: JL

Antibacterial Activity	100	1.00		CFU/sq. inch	1	9/19/2020 11:00:00 AM
------------------------	-----	------	--	--------------	---	-----------------------

99.999% Complete

<b>Qualifiers:</b>	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	PL	Permit Limit	RL	Reporting Detection Limit
	W	Sample container temperature is out of limit as specified at testcode		



Nokomis Lab01  
 1050 Endeavor Court  
 Nokomis, FL 34275  
 TEL: (941) 234-1000 FAX: (941) 484-6774  
 Website: www.sanderslabs.net

# Analytical Report

(continuous)

WO#: 2006735

Date Reported: 9/21/2020

**CLIENT:** Nuturell Corp.Naturell Corporation

**Lab Order:** 2006735

**Project:** Antimicrobial Testing

**Lab ID:** 2006735-019

**Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Outside Untreated - Init Staph count

**Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE** **ISO 22196** Analyst: JL

Antibacterial Activity	250,000	10,000		CFU/sq. inch	1	9/19/2020 11:00:00 AM
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**Lab ID:** 2006735-020

**Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Outside Untreated - 1hr Staph count

**Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE** **ISO 22196** Analyst: JL

Antibacterial Activity	100,000	10,000		CFU/sq. inch	1	9/19/2020 11:00:00 AM
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**Lab ID:** 2006735-021

**Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Outside Untreated - 4hr Staph count

**Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE** **ISO 22196** Analyst: JL

Antibacterial Activity	2,000	100		CFU/sq. inch	1	9/19/2020 11:00:00 AM
------------------------	-------	-----	--	--------------	---	-----------------------

99.2% Complete

<b>Qualifiers:</b>	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	PL	Permit Limit	RL	Reporting Detection Limit
	W	Sample container temperature is out of limit as specified at testcode		



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 Nokomis, FL 34275  
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 Website: www.sanderslabs.net

# Analytical Report

(continuous)

WO#: 2006735

Date Reported: 9/21/2020

**CLIENT:** Nuturell Corp.Naturell Corporation

**Lab Order:** 2006735

**Project:** Antimicrobial Testing

**Lab ID:** 2006735-022

**Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Outside Treated - Init Staph count

**Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

**MICROBIAL RESISTANCE**

ISO 22196

Analyst: JL

Antibacterial Activity	250,000	10,000		CFU/sq. inch	1	9/19/2020 11:00:00 AM
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**Lab ID:** 2006735-023

**Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Outside Treated - 1hr Staph count

**Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE**

ISO 22196

Analyst: JL

Antibacterial Activity	90,000	10,000		CFU/sq. inch	1	9/19/2020 11:00:00 AM
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**Lab ID:** 2006735-024

**Collection Date:** 6/17/2020 11:30:00 AM

**Client Sample ID:** Outside Treated - 4hr Staph count

**Matrix:** SOLID

Analyses	Result	MDL	Qual	Units	DF	Date Analyzed
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**MICROBIAL RESISTANCE**

ISO 22196

Analyst: JL

Antibacterial Activity	1,600	100		CFU/sq. inch	1	9/19/2020 11:00:00 AM
------------------------	-------	-----	--	--------------	---	-----------------------

99.4% Complete

<b>Qualifiers:</b>	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	PL	Permit Limit	RL	Reporting Detection Limit
	W	Sample container temperature is out of limit as specified at testcode		

2006 735



CHAIN OF CUSTODY RECORD

Project #	
(Lab Use Only)	

Client:	Nutrell Corporation	Report To:	Mark Byron Lane PhD.	Project Name:	90 day efficacy
Address:	8823 Napa Landing	E-mail:	mark@nutrell.com	Project Location:	
	Boerne Texas 78015	Bill to:		Customer Type:	
Phone:	210-605-5627	P.O. #		Kit #:	

Fax:		Preservative:	HCL = H, HNO <sub>3</sub> = N, Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> = ST	Requested Due Date:	
			H <sub>2</sub> SO <sub>4</sub> = S, NaOH = SH, NH <sub>4</sub> Cl = NH	Analysis Requested	

Sampled By (PRINT)  
**MARK LANE**  
 Sampler Signature  
*[Signature]*

Matrix	Sample Description	Date	Time	Type	Preservatives		pH	Ice	MRES	Analysis Requested									
	72 metal plates with Nutrell disinfectant	Day 90																	
	Inside untreated Int E-coli count																		1
	Inside untreated 1hr E-coli count																		2
	Inside untreated 4hr E-coli count																		3
	Inside untreated Int E-coli count																		4
	Inside untreated 1hr E-coli count																		5
	Inside untreated 4hr E-coli count																		6

Sample Lot #	Comments	Relinquished By/Affiliation	Date	Time	Accepted By/Affiliation	Date
	Okay to Run As Is	UPS 12 889 CYW OZ 1/6/1 2507				
	Client Initial:					

2006735



CHAIN OF CUSTODY RECORD

Project # (Lab Use Only)

Client:	Nuturrell Corporation	Report To:	Mark Byron Lane PhD.	Project Name:	90 day efficacy
Address:	8823 Napa Landing	E-mail:	mark@nuturrell.com	Project Location:	
	Boerne Texas 78015	Bill to:		Customer Type:	
Phone:	210-605-5627	P.O. #		Kit #:	
Fax:		Preservative:	HCL = H, HNO <sub>3</sub> = N, Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> = ST	Requested Due Date:	
			H <sub>2</sub> SO <sub>4</sub> = S, NaOH = SH, NH <sub>4</sub> Cl = NH	Analysis Requested	

Sampled By (PRINT)  
 MARK LANE  
 Sampler Signature

Matrix	Sample Description	Date	Time	Type	Preservatives		pH	Ice							
	72 metal plates with Nuturrell disinfectant	Day 90													
	Outside untreated Trif E-coli count														7
	Outside untreated 4hr E-coli count														8
	Inside untreated 4hr E-coli count														9
	Outside untreated Trif E-coli count														10
	Outside untreated 4hr E-coli count														11
	Outside untreated 4hr E-coli count														12

Relinquished By/Affiliation	Date	Time	Accepted By/Affiliation	Date	Time
UPS 12 888 OYW 02/16/12 5:07					
Client Initial:					

Page 3 of 4  
2006735



CHAIN OF CUSTODY RECORD

Project #	
(Lab Use Only)	

Client:	Nutrell Corporation	Report To:	Mark Byron Lane PhD.	Project Name:	90 day efficacy
Address:	8823 Napa Landing	E-mail:	mark@nutrell.com	Project Location:	
	Boerne Texas 78015	Bill to:		Customer Type:	
Phone:	210-605-5627	P.O. #		Kit #:	

Fax:		Preservative:	HCL = H, HNO <sub>3</sub> = N, Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> = ST	Requested Due Date:	
			H <sub>2</sub> SO <sub>4</sub> = S, NaOH = SH, NH <sub>4</sub> Cl = NH	Analysis Requested	

Sampled By (PRINT)  
*MARK LANE*  
Sampler Signature  
*[Signature]*

Date	Time	Type	Sample		Preservatives		Analysis Requested												
			pH	Ice															

Relinquished By/Affiliation	Date	Time	Accepted By/Affiliation	Date
UPS 12 889 0YWOZ 1/6/2007				
Client Initial:				

Page 4 of 4

2006735



CHAIN OF CUSTODY RECORD

Project #  
(Lab Use Only)

Project Name: 90 day efficacy

Project Location:

Customer Type:

Kit #:

Requested Due Date:

Client: Nuturell Corporation

Address: 8823 Napa Landing

Boerne Texas 78015

Phone: 210-605-5627

Fax:

Report To: Mark Byron Lane PhD.

E-mail: [mark@nuturell.com](mailto:mark@nuturell.com)

Bill to:

P.O. #

Preservative: HCL = H, HNO<sub>3</sub> = N, Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> = ST

H<sub>2</sub>SO<sub>4</sub> = S, NaOH = SH, NH<sub>4</sub>Cl = NH

Analysis Requested

Sampled By (PRINT)

MARK LANE

Sampler Signature

*[Signature]*

Preservatives

Sample

Matrix	Sample Description	Date	Time	Type	pH	Ice													
	72 metal plates with Nuturell disinfectant	Day 90																	
	Outside untreated Tint Staph count																		17
	Outside untreated 1hr Staph count																		20
	Outside untreated 4hr Staph count																		21
	Inside treated Tint Staph count																		22
	Inside treated 1hr Staph count																		23
	Inside treated 4hr Staph count																		24

Relinquished By/Affiliation: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ Accepted By/Affiliation: \_\_\_\_\_ Date: \_\_\_\_\_

Okay to Release As Is

UPS 12 889 0YW 02 1661 2907

Client Initial:

*[Signature]*

6/17/06 1/15/07



**Antiviral Evaluation of Nuturell's Disinfectant**

**Summary**

We tested Nuturell's liquid disinfectant for its antiviral properties against the OC43 human coronavirus. Stainless steel carrier disks were inoculated with OC43 and allowed to dry. The inoculated disks were then placed into the Nuturell disinfectant for 0 and 10 min. Antiviral activity was discontinued after the incubation time by adding SCDLP Neutralization Buffer. The residual virus was recovered by vortexing and was detected by incubating with RD cells for 48 hrs. RD cells were then fixed with a 1:1 acetone:methanol mixture (to permeabilize cells) and stained with a monoclonal antibody to detect OC43 viral particles. The resultant foci are then enumerated and reported as Focus Forming Units (FFU).

**Test Method Details**

Test Method	Modified ASTM E2197
Test Organism	OC43 human coronavirus
Test Solution	Eagles Modified Medium with 2% Fetal Bovine Serum
Test Samples	Naturell's liquid disinfectant
Recovery Solution	Modified SCDLP Buffer
Method for Measuring Viral Activity	Dilution Plate Method onto RD cells, viral activity was detected by the presence of viral particles (foci) using a monoclonal antibody specific for OC43. Foci were then counted giving Foci Forming Units (FFU).

ResInnova Laboratories  
8807 Colesville Rd, 3<sup>rd</sup> Floor  
Silver Spring, MD 20910

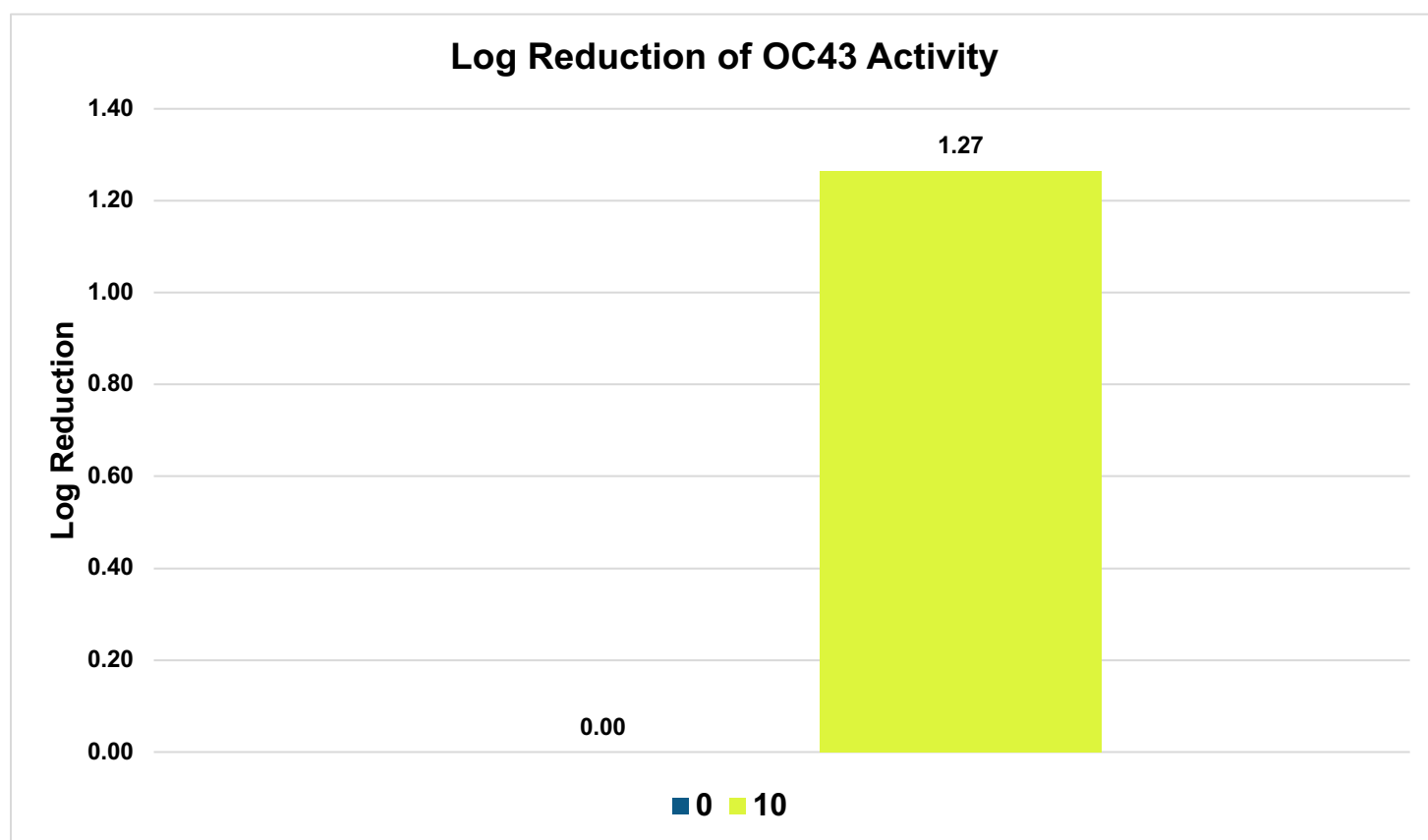




## Results

Modified ISO 18184: Determination of Antiviral Activity of Textile Products	
Number of Replicate Experiments	2
Average Concentration of Inoculum	3.80+7 FFU/ml = 7.58 log FFU/ml

	0 min	10 min
Average CFU/disc sample	1.36E+04	7.38E+02
Percent Reduction	0.00	0.95
Log Reduction	0.00	1.27





Nuturell

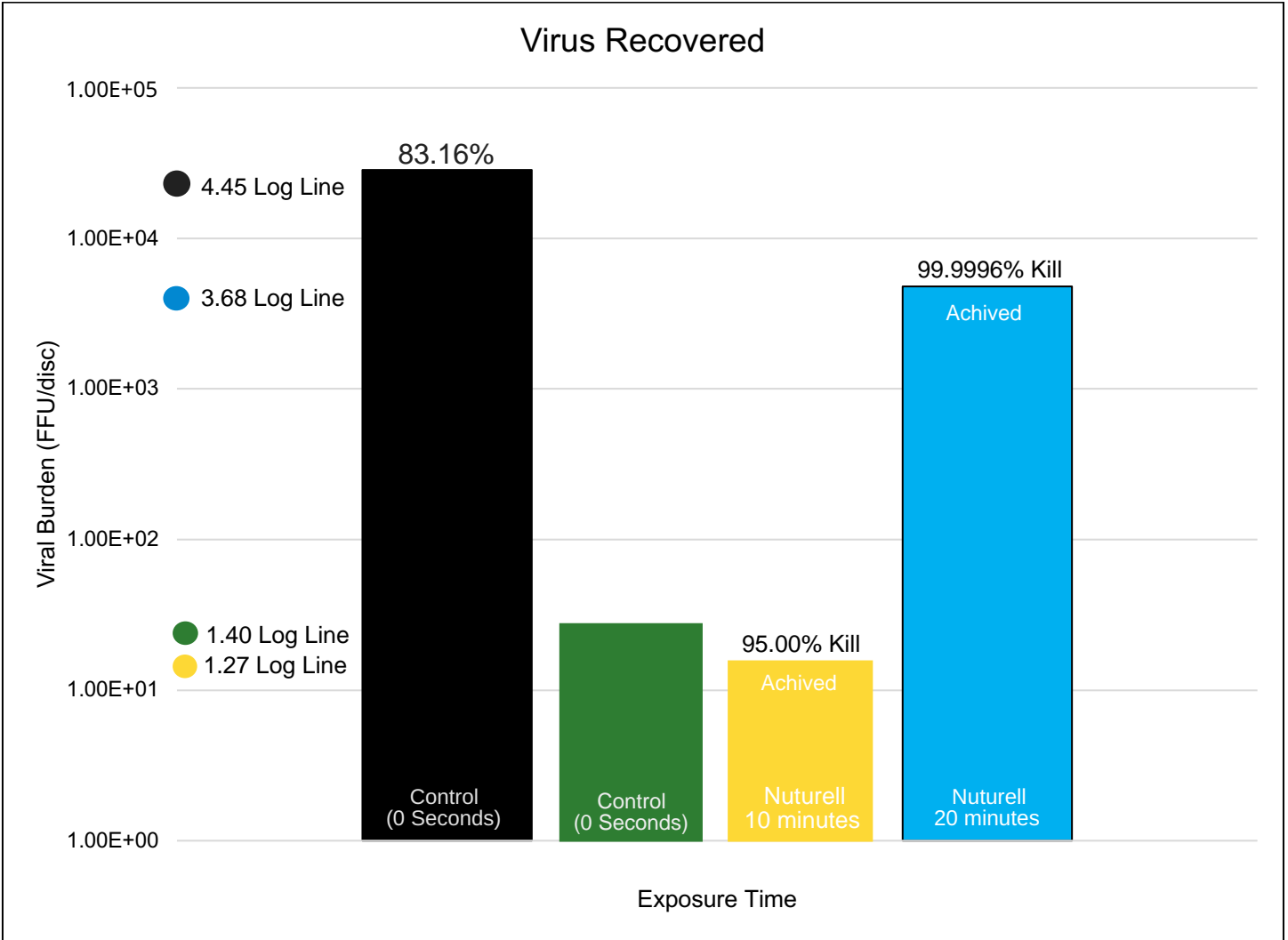
**Antimicrobial Evaluation of SterilRay UV Treated Articles**

**Test Method Details**

Test Method	Modified ASTM E2197
Test Organism	OC43 Human Coronavirus
Test Solution	Eagle's Modified Medium with 2% Fetal Bovine Serum
Test Discs	20mm diameter magnetic stainless steel discs
Inoculum Applied to Test Disc	0.010 mL applied to each disc and spread to within 1 mm of edges, then dried at room temperature
Disinfectant Application	0.050 mL applied over inoculum surface once dried. Exposed for 20 minutes $\pm$ 10 seconds before recovering.
Recovery Solution	10 mL modified SCDLP Buffer
Measuring Method of Number of Viable Virus	Dilution Plate Method onto Rhabdomyosarcoma cells, viral particles were determined using an anti-OC43 monoclonal antibody. Foci were then counted giving Foci Forming Units (FFU).

**Results – OC43 disc testing**

Modified ASTM E2197: Standard Quantitative Disk Carrier Test Method				
Number of Replicate Experiments		1		
Number of Replicate Discs per Experiment		3		
Exposure Time	Average Viral Burden (FFU/disc)	Average Log Viral Burden (FFU/disc)	Log Reduction (vs Control)	Percent Reduction (vs Control)
Control	2.85E+04	4.45	--	--
Nuturell - 20 minutes	4.80E+03	3.68	0.77	99.9996% Control 83.16%



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