Micro Quality Labs

7421 Laurel Canyon #12 • North Hollywood, California 91605
(818) 765-8176 • Fax: (818) 503-5464
E-Mail: MicroQualityLabs@sbcglobal.net

BGP
2118 Wilshire Blvd. 766
Santa Monica, CA 90403
Submitted By: Allan Lord

Report Date: 10/31/07
Date Received: 10/6/07
Date Completed: 10/31/07
P.O. #:
Reference #: MQL# 589905

SAMPLE DESCRIPTION:

ACCESSION #
MQL# 589905
#711

SAMPLE
BIO911™

LOT #
PA-08-032

TEST PERFORMED:
United States Pharmacopoeia
Effectiveness Testing

MQL METHOD #
TM-03 Revision 5-24-03

METHOD REFERENCE#
USP 29-2006 Antimicrobial

RESULTS:

TABLE SUMMARY

	Preservative Testing Colony Forming Units / gram						
Organism	Inoculum / g	Day 0	Day 2	Day 7	Day 14	Day 21	Day 28
Staphylococcus aureus (bacteria) ATCC: 6538	2.50×10^6	<10	<10	<10	<10	<10	<10
Pseudomonas aeruginosa (bacteria)ATCC: 9027	1.80×10^6	<10	<10	<10	<10	<10	<10
Escherichia coli (bacteria) ATCC: 8739	2.00×10^6	<10	<10	<10	<10	<10	<10
Candida albicans (yeast) ATCC: 10257	9.00×10^4	<10	<10	<10	<10	<10	<10
Asperigillus niger (mold) ATCC: 16404	1.50×10^5	<10	<10	<10	<10	<10	<10
Pseudomonas putida ATCC: 49128	1.80×10^6	<10	<10	<10	<10	<10	<10
Pseudomonas stutzeri ATCC: 17588	1.80×10^6	<10	<10	<10	<10	<10	<10
Enterobacter cloacae ATCC: 13047	2.00×10^6	<10	<10	<10	<10	<10	<10
Methicillin Resistant Staphylococcus aeureus (MRSA) ATCC: 33591	2.50×10^6	<10	<10	NA	NA	NA	NA
Methicillin Resistant Staphylococcus aeureus (duplicate MRSA) ATCC: 33591	2.50×10^6	<10	<10	NA	NA	NA	NA

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BIO911™

LOT #
PA-08-032

TEST PERFORMED:
United States Pharmacopoeia
Effectiveness Testing

MQL METHOD #
TM-03 Revision 5-24-03

METHOD REFERENCE#
USP 29-2006 Antimicrobial

PLATING MEDIA:
Microbial Content Test Agar (Bacteria)
Sabouraud Dextrose Agar (Yeast and Mold)

RESULTS:

Preservative Testing Validation					
Organism	Inoculum	Dilution	Microbial Recovery	Diluent	Percent Recovery
Staphylococcus aureus	**82cfu/plate**	1:10	**81cfu/plate**	LB	**99%**
Pseudomonas aeruginosa	**75cfu/plate**	1:10	**69cfu/plate**	LB	**92%**
Escherichia coli	**85cfu/plate**	1:10	**79cfu/plate**	LB	**93%**
Candida albicans	**28cfu/plate**	1:10	**23cfu/gm**	LB	**82%**
Asperigillus niger	**34cfu/plate**	1:10	**27cfu/gm**	LB	**79%**
Pseudomonas putida	**75cfu/plate**	1:10	**69cfu/plate**	LB	**92%**
Pseudomonas stutzeri	**75cfu/plate**	1:10	**69cfu/plate**	LB	**92%**
Enterobacter cloacae	**85cfu/plate**	1:10	**79cfu/plate**	LB	**93%**

CFU = colony forming units LB = Letheen Broth
Diluent: Leetheen broth Dilution: 1:10

CONCLUSION:
The antimicrobial preservative properties present in the sample can be neutralized under the test conditions described below..

Ronnie Alonzo — 10/31/07

Senior Microbiologist **Date**

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Interpretation for preservative testing

Cosmetic products are not expected to be aseptic; however, they must be completely free of high-virulence microbial pathogens, and the total number of aerobic microorganisms per gram must be low. Since there are not widely acceptable standards for numbers, temporary guidelines are used instead .For eye- area products, counts should not be greater than 500 colony forming units(CFU/g);for non-eye area products, counts should not be greater than 1000cfu/g. The presence of pathogens would be particularly important in evaluating as unacceptable a cosmetic with a marginally acceptable count, e.g.400 cfu/g for an eye-area product. Pathogens or opportunistic pathogens whose incidence would be of a particular concern in cosmetics would be *Staphylococcus aureus*, *Pseudomonas aeruginosa* and other species.

Cosmetic Preservative efficacy. The above guidelines for interpretation of results apply to cosmetic product before the time of use. Cosmetics contain antimicrobial preservatives and thus are expected to withstand a certain amount of abuse by users. Formerly, there were no validated tests for cosmetic preservative efficacy (3), although the test for pharmaceutical preservative efficacy in the U.S. Pharmacopoeia (2) or the cosmetic test in the technical guidelines of Cosmetic, Toiletry and Fragrance Association (CTFA)(1) were used. Recently, the CTFA test has been AOAC validated for use with liquid cosmetics. A test for solid cosmetic preservative efficacy has been proposed.(6). Cosmetics is reusable test kits such as those in retail stores, can be microbiologically evaluated semiquantitatively by a sterile swab test (5)

Preservative Challenge Results:
Based on the results, the preservative is effective in exerting its antimicrobial effectiveness.
The preservative is effective in maintaining the sterility of the product.

Karine Gowy 10/31/07

Senior Microbiologist **Date**

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BGP
2118 Wilshire Blvd. 766
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Submitted By: Allan Lord

Report Date: 06/09/09
Date Received: 05/05/09
Date Completed: 06/05/09
P.O. #:
Reference #: 1805

SAMPLE DESCRIPTION:

ACCESSION #	SAMPLE	LOT #
MQL# 1805	Biotanic OTC Surface Spray Alcohol Free	N/A

TEST PERFORMED:	MQL METHOD #	METHOD REFERENCE#
United States Pharmacopoeia	TM-03	USP 32-2009 Antimicrobial Effectiveness Testing

PLATING MEDIA:
Microbial Content Test Agar (Bacteria)
Sabouraud Dextrose Agar (Yeast and Mold)

RESULTS:

	Preservative Testing Validation				
Organism	Inoculum	Dilution	Microbial Recovery	Diluent	Percent Recovery
Staphylococcus pneumoniae (bacteria) ATCC: 700677	**35cfu/plate**	1:10	**31cfu/plate**	LB	**89%**
Staphylococcus epidermidis ATCC: 12228	**50fu/plate**	1:10	**43cfu/plate**	LB	**86%**
Staphylococcus haemolyticus ATCC: 29970	**75cfu/plate**	1:10	**69cfu/plate**	LB	**92%**
Staphylococcus saprophyticus ATCC: 43867	**93cfu/plate**	1:10	**82cfu/gm**	LB	**88%**
Staphylococcus aureus ATCC: 29213	**83cfu/plate**	1:10	**81cfu/gm**	LB	**98%**
Escherichia coli (bacteria) ATCC: 25922	**75cfu/plate**	1:10	**72cfu/plate**	LB	**96%**
Escherichia coli (bacteria) ATCC: 11229	**51cfu/plate**	1:10	**42cfu/plate**	LB	**82%**
Pseudomonas aeruginosa (bacteria)ATCC: 27853	**78cfu/plate**	1:10	**73cfu/plate**	LB	**94%**
Pseudomonas aeruginosa (bacteria)ATCC: 15442	**63cfu/plate**	1:10	**59cfu/plate**	LB	**94%**
Pseudomonas putida ATCC: 49128	**42cfu/plate**	1:10	**40cfu/plate**	LB	**95%**

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P.O. #:
Reference #: 1805

SAMPLE DESCRIPTION:

ACCESSION #	SAMPLE	LOT #
MQL# 1805	Biotanic OTC Surface Spray Alcohol Free	N/A

TEST PERFORMED:	MQL METHOD #	METHOD REFERENCE#
United States Pharmacopoeia	TM-03	USP 32-2009 Antimicrobial Effectiveness Testing

	Preservative Testing Colony Forming Units / gram						
Organism	Inoculum / g	Day 0	Day 2	Day 7	Day 14	Day 21	Day 28
Pseudomonas aeruginosa (bacteria)ATCC: 15442	1.350×10^6	<10	<10	<10	<10	<10	<10
Pseudomonas putida ATCC: 49128	1.25×10^6	<10	<10	<10	<10	<10	<10
Pseudomonas stutzeri ATCC: 17588	1.50×10^6	<10	<10	<10	<10	<10	<10
Pseudomonas fluorescens ATCC: 13525	1.00×10^6	<10	<10	<10	<10	<10	<10
Enterobacter cloacae ATCC: 13047	1.20×10^6	<10	<10	<10	<10	<10	<10
Proteus mirabilis ATCC: 12453	1.20×10^6	<10	<10	<10	<10	<10	<10
Micrococcus luteus ATCC: 7468	1.15×10^6	<10	<10	<10	<10	<10	<10
Enterococcus Faecalis ATTC: 51299	1.00×10^6	<10	<10	<10	<10	<10	<10
Klebsiella Pheymoniae ATTC: 13882	1.30×10^6	<10	<10	<10	<10	<10	<10
Klebsiella Pheumoniae ATTC: 10031	1.50×10^6	<10	<10	<10	<10	<10	<10
Serratia Mazcescens ATTC: 14756	1.50×10^6	<10	<10	<10	<10	<10	<10
Haemophilus influenzae ATTC: 19418	1.00×10^6	<10	<10	<10	<10	<10	<10

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Date Completed: 06/05/09
P.O. #:
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SAMPLE DESCRIPTION:

ACCESSION #	SAMPLE	LOT #
MQL# 1805	Biotanic OTC Surface Spray Alcohol Free	N/A

TEST PERFORMED:	MQL METHOD #	METHOD REFERENCE#
United States Pharmacopoeia	TM-03	USP 32-2009 Antimicrobial Effectiveness Testing

RESULTS:

TABLE SUMMARY

	Preservative Testing Colony Forming Units / gram						
Organism	Inoculum / g	Day 0	Day 2	Day 7	Day 14	Day 21	Day 28
Staphylococcus pneumoniae (bacteria) ATCC: 700677	1.50×10^6	<10	<10	<10	<10	<10	<10
Staphylococcus epidermidis ATCC: 12228	1.10×10^6	<10	<10	<10	<10	<10	<10
Staphylococcus haemolyticus ATCC: 29970	1.60×10^6	<10	<10	<10	<10	<10	<10
Staphylococcus saprophyticus ATCC: 43867	1.25×10^6	<10	<10	<10	<10	<10	<10
Staphylococcus aureus ATCC: 29213	1.50×10^6	<10	<10	<10	<10	<10	<10
Escherichia coli (bacteria) ATCC: 25922	1.35×10^6	<10	<10	<10	<10	<10	<10
Escherichia coli (bacteria) ATCC: 11229	1.11×10^6	<10	<10	<10	<10	<10	<10
Pseudomonas aeruginosa (bacteria) ATCC: 27853	1.11×10^6	<10	<10	<10	<10	<10	<10

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MQL# 1805	Biotanic OTC Surface Spray Alcohol Free	N/A

TEST PERFORMED:	MQL METHOD #	METHOD REFERENCE#
United States Pharmacopoeia	TM-03	USP 32-2009 Antimicrobial Effectiveness Testing

PLATING MEDIA:
Microbial Content Test Agar (Bacteria)
Sabouraud Dextrose Agar (Yeast and Mold)

RESULTS:

	Preservative Testing Validation				
Organism	Inoculum	Dilution	Microbial Recovery	Diluent	Percent Recovery
Pseudomonas stutzeri ***ATCC: 17588***	**96cfu/plate**	1:10	**92cfu/plate**	LB	**96%**
Pseudomonas fluorescens ***ATCC: 13525***	**83cfu/plate**	1:10	**79cfu/plate**	LB	**95%**
Enterobacter cloacae ***ATCC: 13047***	**64cfu/plate**	1:10	**64cfu/plate**	LB	**100%**
Proteus mirabilis ***ATCC: 12453***	**69cfu/plate**	1:10	**67cfu/plate**	LB	**97%**
Micrococcus luteus ***ATCC: 7468***	**97cfu/plate**	1:10	**92cfu/plate**	LB	**95%**
Enterococcus Faecalis ***ATTC: 51299***	**62cfu/plate**	1:10	**60cfu/gm**	LB	**97%**
Klebsiella Pheymoniae ***ATTC: 13882***	**27cfu/plate**	1:10	**27cfu/gm**	LB	**100%**
Klebsiella Pheumoniae ***ATTC: 10031***	**93cfu/plate**	1:10	**88cfu/plate**	LB	**95%**
Serratia Mazcescens ***ATTC: 14756***	**98cfu/plate**	1:10	**92cfu/plate**	LB	**94%**
Haemophilus influenzae ***ATTC: 19418***	**37cfu/plate**	1:10	**29cfu/plate**	LB	**78%**

CFU = colony forming units LB = Letheen Broth
Diluent: Leetheen broth Dilution: 1:10

CONCLUSION:
The antimicrobial preservative properties present in the sample can be neutralized under the test conditions described below.

Senior Microbiologist 6/9/09 Date

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Preservative Challenge Results:
Based on the results, the preservative is effective in exerting its antimicrobial effectiveness.
The preservative is effective in maintaining the sterility of the product.

6/9/09

Senior Microbiologist **Date**

References

1) Anonymous.1985. Preservation testing of aqueous liquid and semi-liquid eye cosmetics. In: CTFA Technical Guidelines. The Cosmetic, Toiletry and Fragrance Association,Inc.,

2) Anonymous. 1990. Antimicrobial preservatives-effectiveness. In: United States Pharmacopeia, 22nd Revision,p.1478. U.S. Pharmacopeial Convention, Rockville, MD.

3)Hitchins,A.D.1993 Cosmetic Preservation and safety:FDA Status.J.Assoc. Food Drug Official 57:42-49

4) Dunningan,A.P. 1968 Microbiological control of Cosmetics.Drug Cosmet. Ind.102:43-45,152-158

5)Tran,T.T.,A.D. Hitchins, and S.W. Collier.1990.Direct contact membrane method for evaluating preservative efficacy in solid cosmetics. Int.J. Cosmet.Sc. 12:175-183

6) Tran,T.T., A.D Hitchins.1194. Microbiological survey of shared-use cosmetic test kits available to the public, J. Ind. Microbial.13:389-391

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MICROBIOLOGICAL REPORT

BGP LLC
Attn: Allan Lord
2118 Wilshire Blvd. # 766
Santa Monica, CA 90403

Report Date: 11/14/07
Date Received: 12/03/07
Date Completed: 12/03/07
Project #: 794
P.O. #: Not Specified
Reference #: 794

SAMPLE DESCRIPTION:

ACCESSION #	SAMPLE:	LOT #	BATCH#	QTY.
Project #794	TAN Liquid	10.30.07	PA -08-032	20 pounds

TEST PERFORMED:
Bacterial Reduction –
Reference AOAC

The log reduction is used to determine the effectiveness of a product at reducing a specific microorganism population.

Methicillin Resistant Staphylococcus aeureus (MRSA) was prepared by inoculating the surface of TSA slants. Each microorganism was then incubated at 30 to 35°C for 18 to 24 hours. Following the incubation period the slants were washed with sterile Serological Saline Solution to harvest the microorganisms. Using Culti-Loops microorganisms were grown and adjusted to 10^8 (cfu) colony forming units per mL and used as a stock suspension. An additional 1:10 dilution of the stock suspension was made using Serological Saline Solution to achieve a concentration of approximately 10^7 CFU per mL.

For the microorganism to be tested, 20 mL of test product and 20 mL of Serological Saline Solution was added into separate sterile tubes. Each 20mL sample of test product and Serological Saline Solution was inoculated with 0.2 mL of the 10^7 CFU/mL suspensions. These inoculums resulted in approximately 10^6 CFU.mL into the product and Serological Saline Solution control.

At the time intervals of 30 seconds, 60 seconds, 120 seconds, 180 seconds, and 1 hour , 1.0 mL from the inoculated test product was taken and placed into 9.0 mL of Modified Letheen Broth (1:10 Dilution). Additional 1:10 serial dilutions were prepared using neutralizing broth to achieve 1:100 and 1:1000 dilutions.

1 mL from each dilution was plated in sterile Petri dishes and melted TSA agar was added as the growth medium for bacterial organisms.

The bacterial plates were incubated at 30 to 35°C for 48 hours. The same procedure was repeated for the Serological Saline Solution control. After the incubation period, all plates were counted to determine the number of microorganisms remaining at the various time points

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BGP LLC
Project # 794

RESULTS:

Methicillin Resistant Staphylococcus aureus (MRSA)
ATCC 33591

EXPOSURE TIME	CONCENTRATION OF ORGANISM (CFU/mL)		% REDUCTION		LOG REDUCTION	
	CONTROL	PRODUCT	CONTROL	PRODUCT	CONTROL	PRODUCT
INITIAL	2.0×10^6					N/A
30 sec.	1.80×10^6	1:10 dilution <10	N/A	100%	0.05	N/A
1 min.	5.0×10^5	1:10 dilution <10	75%	100%	0.60	N/A
2 min.	5.0×10^5	1:10 dilution <10	75%	100%	0.60	N/A
3 min.	5.6×10^5	1:10 dilution <10	72%	100%	0.60	N/A
1 hour	2.66×10^5	1:10 dilution <10	87%	100%	0.88	N/A

Data Calculation:

The concentration of each microorganism for the control and product is listed for each interval. These numbers are expressed in terms of scientific notation. The next two headings represent the "% reduction" and "Log Reduction" information for each time point. Both calculations are used to express the change (reduction or increase) of the microorganism population relative to starting inoculums.

$$\% \text{ Reduction} = \frac{\text{Initial Count} - \text{Count at x time interval}}{\text{Initial Count}} \times 100$$

For Example: % Reduction For *MRSA* at 30 seconds for test product

$$\frac{2.0 \times 10^6 - 1.8 \times 10^6}{2.0 \times 10^6}$$

The log reduction is calculated as follows:

Log 10(initial count) – Log10 (x times interval) = Log reduction

For example: Log (2.0×10^6 CFU/gm) – Log 10 (1.8 x 106 CFU/gm) = 6.3-6.25=0.05 reduction

Discussion:

The minimum bactericidal concentration is defined as 99.9% decrease (3 log) in the initial inoculums. The test product had no counts for growth when exposed to *Methicillin Resistant Staphylococcus aureus (MRSA)* at all time intervals.

Conclusion:

The results indicate that BGP has antimicrobial activity against *Methicillin Resistant Staphylococcus aureus (MRSA)*, Culti-Loop, ATCC # 33591 at 30 seconds contact time. The aforementioned results on this report are representative of the samples submitted and may not be indicative of the entire manufacture, batch, and/or lot. Applicable current GMP's shall always be used when sampling. GLP's shall always be practiced by Micro Quality Labs to ensure the most accurate results.

Approved:
Karine Aylozyan….Senior Microbiologist/Q.A. Coordinator Germina Ratquaz Senior Microbiologist

K- 8037- Ratquaz 11/14/07

References

1) Anonymous.1985. Preservation testing of aqueous liquid and semi-liquid eye cosmetics. In: CTFA Technical Guidelines. The Cosmetic, Toiletry and Fragrance Association,Inc.,

2) Anonymous. 1990. Antimicrobial preservatives-effectiveness. In: United States Pharmacopeia, 22nd Revision,p.1478. U.S. Pharmacopeial Convention, Rockville, MD.

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4) Dunningan,A.P. 1968 Microbiological control of Cosmetics.Drug Cosmet. Ind.102:43-45,152-158

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6) Tran,T.T., A.D Hitchins.1194. Microbiological survey of shared-use cosmetic test kits available to the public, J. Ind. Microbial.13:389-391

NON-GLP STUDY REPORT

STUDY TITLE

Time Kill Assay For Antimicrobial Agents

Test Organism:

Community Acquired Methicillin Resistant *Staphylococcus aureus* - CA-MRSA
Genotype USA 300 (NARSA NRS 384)

PRODUCT IDENTITY

Biocence W.S. Liquid, Botanical Human OTC Drug
(NDC# 59998)

AUTHOR

Jamie Herzan, B.S.
Senior Microbiologist

STUDY COMPLETION DATE

September 26, 2017

PERFORMING LABORATORY

Accuratus Lab Services
1285 Corporate Center Drive, Suite 110
Eagan, MN 55121

SPONSOR

Anti-Microbial Technology, Inc.
40575 Cal Oaks Rd., D2, #238
Murrieta, CA 92562-5856

PROJECT NUMBER

A23991

This study was not performed under U.S. EPA 40 CFR
Part 160 or U.S. FDA 21 CFR Part 58

ACCURATUS —LAB SERVICES— THE ANTIMICROBIAL AUTHORITY

STUDY REPORT

GENERAL STUDY INFORMATION

Study Title: Time Kill Assay For Antimicrobial Agents

Project Number: A23991

Protocol Number: ANT002082417.TK.2

TEST SUBSTANCE IDENTITY

Test Substance Name: Biocence W.S. Liquid, Botanical Human OTC Drug (NDC# 59998)

STUDY DATES

Date Sample Received: September 11, 2017
Study Initiation Date: September 12, 2017
Experimental Start Date: September 19, 2017
Experimental End Date: September 21, 2017
Study Completion Date: September 26, 2017

Test Organism	Designation #	Growth Medium	Incubation Parameters
Community Acquired Methicillin Resistant *Staphylococcus aureus* - CA-MRSA Genotype USA 300	NRS 384	Tryptic Soy Agar + 5% Sheep's Blood	35-37°C, aerobic

The test organism used in this study was obtained from the NARSA Contracts Administrator at Focus Technologies, Inc., Herndon, VA 20171.

Test Substance Dilution: 4 cc/10 cc defined as 4 cc of test substance + 6 cc of autoclave sterilized deionized water
Exposure Times: 1 minute, 3 minutes and 5 minutes
Exposure Temperature: Ambient temperature (20°C)
Number of Replicate/Sample: 1 replicate per batch
Soil Load Description: 5% Fetal Bovine Serum
Neutralizer: D/E Neutralizing Broth
Agar Plate Medium: Tryptic Soy Agar + 5% Sheep Blood

EXPERIMENTAL DESIGN

A suspension of the test organism was exposed to the test substance for the specified exposure times. After exposure, an aliquot of the suspension was transferred to neutralizer and was assayed for survivors. Appropriate culture purity, organic soil load sterility, neutralizer sterility, test population and neutralization confirmation controls were performed.

Per Sponsor's direction, the study was not required to be conducted under U.S. EPA 40 CFR Part 160 or U.S. FDA 21 CFR Part 58.

STUDY RESULTS

TABLE 1: CONTROL RESULTS

The following results from controls confirmed study validity:

Type of Control		Results
Purity Control	Community Acquired Methicillin Resistant *Staphylococcus aureus* - CA-MRSA Genotype USA 300 (NARSA NRS 384)	Pure
Organic Soil Load Sterility Control		No Growth
Neutralizer Sterility Control		No Growth

TABLE 2: TEST POPULATION CONTROL RESULTS

Test Organism	Results	
	CFU/mL	Log_{10}
Community Acquired Methicillin Resistant *Staphylococcus aureus* - CA-MRSA Genotype USA 300 (NARSA NRS 384)	3.8×10^6	6.58

CFU = Colony Forming Units

TABLE 3: NEUTRALIZATION CONFIRMATION CONTROL RESULTS

Test Substance	Test Organism	Neutralization Confirmation (CFU)		Pass/Fail (Log_{10} Difference)
		Numbers Control	Test Substance Results	
Biocence W.S. Liquid, Botanical Human OTC Drug (NDC# 59998)	Community Acquired Methicillin Resistant *Staphylococcus aureus* - CA-MRSA Genotype USA 300 (NARSA NRS 384)	74, 73	74, 74	Pass (0.00)

CFU = Colony Forming Units

TABLE 4: TEST RESULTS FOR Biocence W.S. Liquid, Botanical Human OTC Drug (NDC# 59998)

DILUTION (VOLUME PLATED)	Test Organism: Community Acquired Methicillin Resistant *Staphylococcus aureus* - CA-MRSA Genotype USA 300 (NARSA NRS 384)		
	Exposure Time		
	1 minute	3 minute	5 minutes
	Number of Survivors		
10^0 (1.00 mL)	T, T	T, T	T, T
10^0 (0.100 mL)	T, T	140, 202	152, 162
10^{-1} (0.100 mL)	27, 34	18, 22	17, 15
10^{-2} (0.100 mL)	2, 3	0, 3	0, 0
10^{-3} (0.100 mL)	0, 0	0, 1	0, 0

T = Too Numerous To Count (>300 colonies)

TABLE 5: CALCULATED DATA FOR Biocence W.S. Liquid, Botanical Human OTC Drug (NDC# 59998)

Test Organism: Community Acquired Methicillin Resistant *Staphylococcus aureus* – CA-MRSA Genotype USA 300 (NARSA NRS 384)					
Exposure Time	**CFU/mL in Test Population Control (Log_{10})**	**CFU/mL of Survivors**	**Log_{10} Survivors**	**Percent Reduction**	**Log_{10} Reduction**
1 minute	3.8×10^6 (6.58)	3.1×10^4	4.49	99.2%	2.09
3 minutes		1.71×10^4	4.23	99.6%	2.35
5 minutes		1.57×10^4	4.20	99.6%	2.38

CFU = Colony Forming Units

TABLE 6: VERIFICATION OF ANTIBIOTIC RESISTANCE

Quality Control Organism	**Zone of Inhibition (mm)**	**CLSI* Acceptable Range (mm)**
Staphylococcus aureus (ATCC 25923)	18	18 – 24
Test Organism	**Zone of Inhibition (mm)**	**CLSI* Resistant Range (mm)**
Community Acquired Methicillin Resistant *Staphylococcus aureus* - CA-MRSA Genotype USA 300 (NARSA NRS 384)	6	≤10

*CLSI = Clinical and Laboratory Standards Institute
Interpretation of result and acceptable range are from the Clinical and Laboratory Standards Institute, Performance Standards for Antimicrobial Susceptibility Testing; Twenty-Second Information Supplement January 2012, Volume 31 Number 1, Approved Standard M02-A11 and M07-A9, Wayne, Pennsylvania.

CONTROL RESULTS

All controls including culture purity, organic soil load sterility, neutralizer sterility, test population and neutralization confirmation were all acceptable.

ACCURATUS —LAB SERVICES— THE ANTIMICROBIAL AUTHORITY

ANALYSIS

Biocence W.S. Liquid, Botanical Human OTC Drug (NDC# 59998) diluted 4 cc/10 cc defined as 4 cc of test substance + 6 cc of sterile deionized water, demonstrated a 99.2% (2.09 log_{10}) reduction of Community Acquired Methicillin Resistant *Staphylococcus aureus* - CA-MRSA Genotype USA 300 (NARSA NRS 384) survivors following a 1 minute exposure time, a 99.6% (2.35 log_{10}) reduction of Community Acquired Methicillin Resistant *Staphylococcus aureus* - CA-MRSA Genotype USA 300 (NARSA NRS 384) survivors after a 3 minute exposure time and a 99.6% (2.38 log_{10}) reduction of Community Acquired Methicillin Resistant *Staphylococcus aureus* - CA-MRSA Genotype USA 300 (NARSA NRS 384) survivors after a, 5 minute exposure when tested at ambient temperature (20°C) in the presence of a 5% fetal bovine serum organic soil load.

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Date