

BIOTEST LABORATORIES PTY LTD

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4 November, 2010

Our Ref: 175444

Your Ref:

Mr Brian Rhodes
Global Future Solutions
(GFS BioProtect)
Unit 6/7 Miller Street
MURRARIE QLD 4172

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Dear Sir,

Re: CHALLENGE TEST

A sample was tested as received at the laboratory on the 1st October 2010. This sample was analysed as directed on the 5th of October 2010 to assess the antimicrobial activity of the product against the microorganisms listed below. A summary of the test methodology and results are as follow which pertain only to the sample as tested:-

Biotest Sample No: 10277/81

Sample Description: GFS Hospital Grade Disinfectant
Batch 01/10/10

Test Organisms: *Escherichia coli* ATCC 8739
Salmonella typhimurium ATCC 74
Vancomycin Resistant Enterococci (VRE)

Test Method: 10cm x 10cm stainless steel plates were sprayed with Hospital Grade Sanitiser, left to dry and resprayed with Hospital Grade Sanitiser.

The test plates and untreated 10cm x 10cm stainless steel plates were inoculated with 0.5mL of test culture to cover the entire surface of the stainless steel plates and left at room temperature for 1 hour.

Recoveries were performed by rinsing a test plate and an untreated plate with 100mL of Nutrient Broth & 3% Tween. Serial dilutions were performed from the rinse solution, plated with Tryptone Soya Agar and incubated at 36°C for 48 hours.

TEST RESULTS

CHALLENGE - DAY 1

Test Organism	Challenge Recovery (36°C/48hrs)				Log Reduction (Control – Test)	% Reduction (Control – Test) x 100 Control
	GFS-Hospital Grade Disinfectant 10277/81		Control			
	CFU Per plate	Log CFU	CFU Per plate	Log CFU		
<i>Escherichia coli</i>	<100	<2	8.4x10 ⁷	7.92	>5.92	>99.99
<i>Salmonella typhimurium</i>	<100	<2	2.0x10 ⁸	8.30	>6.30	>99.99
VRE	1.7x10 ⁵	5.23	1.1x10 ⁸	8.04	2.81	99.85

CHALLENGE - DAY 7

Test Organism	Challenge Recovery (36°C/48hrs)				Log Reduction (Control – Test)	% Reduction (Control – Test) x 100 Control
	GFS-Hospital Grade Disinfectant 10277/81		Control			
	CFU Per plate	Log CFU	CFU Per plate	Log CFU		
<i>Escherichia coli</i>	<100	<2	1.6x10 ⁸	8.20	>6.20	>99.99
<i>Salmonella typhimurium</i>	2.7x10 ⁵	6.43	2.6x10 ⁸	8.41	1.98	98.96
VRE	3.2x10 ³	3.51	3.2x10 ⁸	8.51	5.00	99.99

Test Results Continued.

CHALLENGE - DAY 14

Test Organism	Challenge Recovery (36°C/48hrs)				Log Reduction (Control – Test)	% Reduction $\frac{(\text{Control} - \text{Test}) \times 100}{\text{Control}}$
	GFS-Hospital Grade Disinfectant 10277/81		Control			
	CFU Per plate	Log CFU	CFU Per plate	Log CFU		
<i>Escherichia coli</i>	<100	<2	2.6x10 ⁸	8.41	6.41	>99.99
<i>Salmonella typhimurium</i>	4.8x10 ⁶	6.68	6.7x10 ⁸	8.83	2.15	99.28
VRE	8.0x10 ²	2.90	3.3x10 ⁸	8.52	5.62	99.99

CHALLENGE - DAY 28

Test Organism	Challenge Recovery (36°C/48hrs)				Log Reduction (Control – Test)	% Reduction $\frac{(\text{Control} - \text{Test}) \times 100}{\text{Control}}$
	GFS-Hospital Grade Disinfectant 10277/81		Control			
	CFU Per plate	Log CFU	CFU Per plate	Log CFU		
<i>Escherichia coli</i>	4.2x10 ⁴	4.62	3.0x10 ⁷	7.48	2.86	99.86
<i>Salmonella typhimurium</i>	9.4x10 ⁶	6.97	7.8x10 ⁷	7.89	0.92	87.95
VRE	9.0x10 ²	2.95	5.4x10 ⁸	8.73	5.78	99.99

Inactivation / Validation

Challenge Organism	Test Product Recovery CFU	Control System Recovery CFU	Interpretation
<i>Escherichia coli</i>	52	59	Satisfactory
Vancomycin Resistant Enterococci (VRE)	44	47	Satisfactory
<i>Salmonella typhimurium</i>	53	50	Satisfactory

Acceptance Criteria (British Pharmacopoeia Appendix XVI D): For the product to pass validation and verify the suitability of the test method, the mean count of any of the test organisms should not differ by a factor greater than 2 from the control count.

Key:

- < = Less than
- > = Greater than
- CFU = Colony forming unit

Yours faithfully
BIOTEST LABORATORIES PTY.LTD.



Fiona McNicol B.App.Sc.
Microbiology Manager