



# BIOTECH TESTING SERVICES

## TEST REPORT

LAB NO. : 18254/ 1 - 4

DATE: 22/04/2019

**NAME OF CUSTOMER** : M/S. REAL RELIEF  
**ADDRESS** : Essen 26,  
6000 Kolding, Denmark  
**REFERENCE** : Letter Ref. dated March 29, 2019  
Kind Attention: Torben Holm Larsen  
**DATE OF RECEIPT** : 29/03/2019  
**DATE OF INITIATION** : 29/03/2019 & 05/04/2019  
**DATE OF COMPLETION** : 02/04/2019 & 22/04/2019  
**SAMPLE DESCRIPTION** : Towel sample labeled as – (Samples attached)

Sr. No.	Description	Treatment
1.	Super Towel	Original
2.	Super Towel	After 20 washes
3.	Super Towel	After 50 washes
4.	Super Towel	After 100 washes

**Name of Test:**

Evaluation of Antimicrobial Activity by AATCC 100 - 2012

**Test Inoculum:**

1. Staphylococcus aureus ATCC 6538 ( $1.90 \times 10^5$  CFU/ml)
2. Klebsiella pneumoniae ATCC 4352 ( $2.10 \times 10^5$  CFU/ml)
3. Vibrio cholerae 0139 MTCC 3906

**Additional Test Information:**

1. Sample size: 48 mm discs
2. Pre-treatment of sample: Free steaming
3. No. of swatches used: 2
4. Inoculum Carrier: Phosphate Buffered water
5. Neutraliser: DE Broth

**Results:**

Towel swatches in contact with individual test cultures for 24 hrs at 37°C showed the following results:-

Sample Identification	Test Culture	No. of Bacteria per sample (CFU/ Sample)		Percentage Reduction of Bacteria (R)
		Inoculated Sample at 0 hrs. (B)	Treated Sample at 24 hrs. (A)	
Super Towel Original	Staph. aureus	$1.54 \times 10^5$	<10	>99.99
	K. pneumoniae	$1.72 \times 10^5$	$1.10 \times 10^2$	99.93
	V. cholerae	$1.32 \times 10^5$	<10	>99.99
Super Towel after 20 washes	Staph. aureus	$1.59 \times 10^5$	$5.50 \times 10^3$	96.54
	K. pneumoniae	$1.78 \times 10^5$	$1.52 \times 10^4$	91.46
Super Towel after 50 washes	Staph. aureus	$1.54 \times 10^5$	$7.60 \times 10^3$	95.06
	K. pneumoniae	$1.70 \times 10^5$	$1.74 \times 10^4$	89.76
Super Towel after 100 washes	Staph. aureus	$1.56 \times 10^5$	$1.82 \times 10^4$	88.33
	K. pneumoniae	$1.75 \times 10^5$	$2.93 \times 10^4$	83.25

**REMARKS:**

1. CFU: Colony Forming Unit = No. of Microorganisms
2. Percentage Reduction of Microorganism (R) =  $100 (B - A / B)$

**INTERPRETATION:**

Towel labeled as Super towel Original has shown >99.99%, 99.93% and >99.99% antimicrobial activity towards Staphylococcus aureus, Klebsiella pneumoniae and Vibrio cholerae; Super towel after 20 washes has shown 96.54% and 91.46% antimicrobial activity; Super towel after 50 washes has shown 95.06% and 89.76% antimicrobial activity; Super towel after 100 washes has shown 88.33% and 83.25% antimicrobial activity towards Staphylococcus aureus and Klebsiella pneumoniae respectively when tested as per AATCC 100 - 2012 test Method.

For BIOTECH TESTING SERVICES



  
 Dr Shilpa U. Nair  
 Quality Manager  
 (Authorized Signatory)

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• Samples are not drawn by the laboratory • Result relate only to the samples tested  
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