

TEST REPORT

ULR - TC-589020120024926P

NUMBER : BOMT20024926

DATE : 10-Sep-2020

APPLICANT : Govik Industries Private Limited
Plot No.A-524/525, T.T.C. Industrial
Area,, M.I.D.C., Mahape,, Navi Mumbai,
Maharashtra, 400710, India

ATTN :

Sample Description : FIVE PIECES OF SUBMITTED MASK SAMPLE.

"CoProtex Face Mask by Govik"

Date Received/date Test Started : 01 Sep 2020
Date Confirmation Received : 01 Sep 2020
Buyer : NOT PROVIDED
P.O.No : -
Fiber Content :
Style : -
Color : -
Article No :

TEST CONDUCTED : AS PER THE REQUEST OF THE APPLICANT. FOR FURTHER DETAILS PLEASE REFER TO ENCLOSED PAGE(S)

Test are subcontracted .

Remark "The samples referred to in this report were not tested in accordance with Intertek's full Mask Protocol. Testing was conducted on specific items only, at our client's request"

AUTHORIZED BY
FOR Intertek India Private Limited - [Mumbai]



INDIRA DEVADIGA
LAB MANAGER

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TEST CONDUCTED (AS REQUESTED BY THE APPLICANT)

1. Anti-Bacterial Test

AATCC 100

Name of Test:

Evaluation of Antimicrobial Activity by AATCC 100-2019

Test Inoculum:

1. Staphylococcus aureus ATCC 6538 (1.70 x 10⁵ CFU/ml)
2. Klebsiella pneumoniae ATCC 4352 (1.80 x 10⁵ CFU/ml)

Additional Test Information:

Sample size : 48 mm discs
 Pre-treatment of sample : Non sterile
 No. of swatches used : 1.0 g ± 0.1 g
 Inoculum Carrier : Phosphate Buffered saline
 Neutralizer : DE Broth

Results:

Fabric swatches in contact with individual test cultures for **24 hrs at 37^o C** showed the following results:-

Sample Identification	Test Culture	No. of Bacteria per sample (CFU/Sample)		Percentage Reduction of Microorganism (R)
		Inoculated Sample at 0 hours (C)	Inoculated Sample at 24 hours (A)	
Mask sample	Staph. aureus	1.72 x 10 ⁵	<10	>99.99
	K. pneumoniae	1.82 x 10 ⁵	<10	>99.99

REMARKS:

1. CFU: Colony Forming Unit = No. of Microorganisms
2. Percentage Reduction of Microorganisms (R) = 100 (C – A/ C)

INTERPRETATION:

Fabric labeled as **Mask sample** has shown **>99.99%** and **>99.99%** antimicrobial activity ; towards Staphylococcus aureus and Klebsiella pneumoniae respectively when analyzed as per AATCC 100 - 2019 test Method.

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2. Antiviral Test

AATCC 100 MODIFIED MS2 CONTACT TIME : 3 HOURS

Purpose of Test:

Antiviral Activity of Fabric

Name of Test:

Evaluation of Antimicrobial Activity by modified AATCC 100 - 2012

Test Microorganism Information:

MS2 Bacteriophage (MS2) is an RNA virus of the family Leviviridae. Escherichia coli 15597 are the hosts for MS2 bacteriophages. Due to its environmental resistance, MS2 bacteriophages are used as a surrogate virus (particularly in place of Picornaviruses such as Poliovirus and human Norovirus) in water quality and Antimicrobial studies.

Virus: MS2 Bacteriophage

Permissive Host Cell: Escherichia coli ATCC 15597

Test Parameters used in Study:

Sample size : 48 mm discs
No. of swatches used : 0.75 gram
Method of Sterilization of sample : Autoclaving
Viral Inoculum Volume : 0.5 ml; 1.00×10^6 PFU/ ml
Host Cell Line : E. coli 15597
Dilution Medium : Phosphate Buffered Saline (PBS)
Contact Time : 3 hours at 35°C
TSA Neutralizer : 10 ml D/E broth
Assay Medium : 50% TSA agar
Incubation Period : 48 hours

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Procedure:

1. Test and control fabrics are cut into appropriately-sized swatches of 50 mm diameter and stacked. The numbers of swatches taken are enough to absorb the entire liquid inoculum of 0.5 ml quantity.
2. Stock virus is standardized to prepare a test inoculum.
3. Test and control materials are inoculated with the test virus, and incubated in a humid environment at 35°C temperature for 3 hours contact time.
4. The viral concentration is determined at "Time Zero" to verify the target inoculums using plaque assay techniques. Assay plates are incubated for 48 hours for the virus-host cell system.
5. After the incubation period, following neutralization, the carrier suspensions are quantified to determine the levels of infectious virus survived and the assay is scored for titre of test virus.
6. Adequate control is implemented to verify neutralization effectiveness of the antimicrobial agent with Neutralizer used.
7. Percent reductions are computed for test fabric relative to the Time Zero enumeration(s), and reported.

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Results:

Fabric swatches in contact with individual test organism for 3 hrs at 35⁰ C showed the following results:-

Sample Identification	Test Organism: MS2 Bacteriophage				Log Reduction of Virus at 3 hours	Percentage Reduction of Virus at 3 hours
	Average PFU/Carrier at 0 hours (B)		Average PFU/Carrier at 3 hours (A)			
	PFU	log	PFU	log		
Mask sample	9.00 x10 ⁴	4.95	<10	<1	>3.95	>99.98
Untreated lab control			1.00 x 10 ⁵	5.00	0.00	0.00

REMARKS:

1. PFU: Plaque Forming Unit = No. of Microorganisms
2. Percentage Reduction = (B – A/ B) x 100
3. Log reduction Log (B/A)

Where:

B = Number of viable test microorganisms on the control carriers immediately after inoculation

A = Number of viable test microorganisms on the test carriers after the contact time

INTERPRETATION:

Sample labeled as **Mask sample** has shown **>99.98%** reduction of Virus in 3 hours respectively when analyzed as per AATCC 100 - 2012 test Method using MS2 Bacteriophage as surrogate virus.

Disclaimer:

Bacteriophages are viruses of Bacteria. They are suitable only as a Preliminary screen in the development of germicidal product.

Due to variation in virus antigen, for specific virucidal claims, test should be conducted specifically with that virus

END OF THE TEST REPORT

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