BIOTECH TESTING SERVICES

TEST REPORT

LAB NO.: 2300703/ 1 - 2	DATE: 17/04/2023

NAME OF CUSTOMER : M/S. Allwin Rotoplast (Mr.Salim Pissuwala)

ADDRESS : 753/B, B/h. Cadila Corporate Campus,
Sarkhej-Dholka Road, Vill: Bhat, Tal: Daskroi,
Dist: Ahmedabad-382210, India

REFERENCE : Letter Ref: Nil dated March,29 2023
Kind Attention: Mr. Srimant Anne

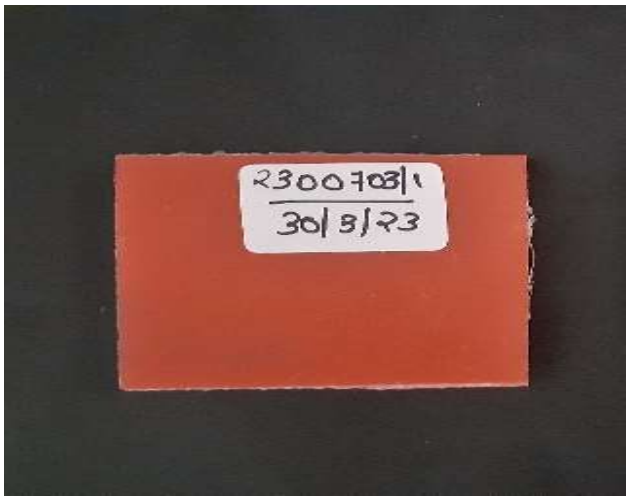
DATE OF RECEIPT : 30/03/2023

DATE OF INITIATION : 30/03/2023 & 10/04/2023

DATE OF COMPLETION : 05/04/2023 & 17/04/2023

SAMPLE DESCRIPTION : Plastic sample labeled as-

Sr No.	Description
1	Sample AW - Treated (Red colour)
Untreated – Lab Control	



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Test Microorganism Information:

MS2 Bacteriophage (MS2) is an RNA virus of the family Leviviridae. Escherichia coli 15597 are the hosts for 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

Experimental Details:

Test Carrier	: Test Sample (50 mm x 50 mm); Pre-sterilized by ETO gas
Control Carrier	: Sample non coated and sterilized by autoclaving (50 mm x 50 mm)
LDPE cover	: LDPE film pre sterilized 40 mm x 40 mm
Virus	: MS2 Bacteriophage; Inoculum volume 0.4 ml
Permissive Host Cell	: Escherichia coli ATCC 15597
Contact Period	: 2 hours and 24 hours
Neutralizer	: DE broth
Medium	: Trypticase soya agar
Incubation for survivors	: 37^0C for 3 days

Validation and Records:

Neutralizer Validation and Records:

Validation Test			
Test Organism	**Exptl. Condition Control (A)** (PFU/ ml)	**Neutralizer Toxicity Control (B)** (PFU/ ml)	**Dilution–neutralization Control (C)** (PFU/ ml)
MS2 Bacteriophage	52	54	56

Where –

A=No. of PFU/ml of Test organism in Experimental condition validation

B=No. of PFU/ml of Test organism in Neutralizer Toxicity validation

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Test Procedure:

Pre-sterilized samples were loaded with diluted viral suspension to 10^6 PFU/ ml. Virus suspension 0.4 ml was added to 50 mm x 50 mm of Test substrate. It was covered with 40 mm x 40 mm LDPE film. Following exposure time, Virus was eluted and neutralized by serial tenfold dilution and assayed to determined surviving Viruses in comparison with Control without test product in sq. cms. Virus assay was quantitative as Plaque forming unit (PFU) visible as area of Clearance.

Results:

A. Contact duration of 2 hours

Quantitative Assessment of Antiviral Activity –ISO 21702: 2019				
Untreated: Average no. of Plaques recovered at 0 hours (U_0): 6.20 x 10^4 PFU/sq· cm.				Log = 4.79
Untreated: Average no. of Plaques recovered at 2 hours (U_t): 7.10 x 10^4 PFU/sq· cm.				Log = 4.85
Sample Identification	**Average No. of Plaques recovered from Treated (At)**	**Log of Plaques recovered from Treated (At)**	**Antiviral Activity(R)** (Log U_t- A_t)	**Virus Reduction Percentage**
Sample AW – Treated (Red colour)	4800	3.68	**1.17**	**93.23**

B. Contact duration of 24 hours

Quantitative Assessment of Antiviral Activity –ISO 21702: 2019				
Untreated: Average no. of Plaques recovered at 0 hours (U_0): 6.20 x 10^4 PFU/sq· cm.				Log = 4.79
Untreated: Average no. of Plaques recovered at 24 hours (U_t): 7.90 x 10^4 PFU/sq· cm.				Log = 4.89
Sample Identification	**Average No. of Plaques recovered from Treated (At)**	**Log of Plaques recovered from Treated (At)**	**Antiviral Activity(R)** (Log U_t- A_t)	**Virus Reduction Percentage**
Sample AW – Treated (Red colour)	150	2.17	**2.72**	**99.81**

Where:

R = Antiviral activity

U_0 = Log of PFU recovered from Untreated specimen immediately after inoculation, in PFU/ cm^2

U_t = Log of PFU recovered from Untreated specimen after2/24 hrs. after inoculation, in PFU/ cm^2

A_t = Log of PFU recovered from Treated specimen after 2/24 hrs. after inoculation, in PFU/ cm^2

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