



BIOTECH TESTING SERVICES LLP

TEST REPORT

REPORT NO. : BTS2500662-01

DATE : 24-03-2025

NAME OF CUSTOMER : RUSHIL DECOR LIMITED
ADDRESS : S. NO 125
Near kalyanpura Patia, Village ITLA Gandhinagar- Mansa Road, Ta Kalol
Gandhinagar-38285
Gujarat, INDIA
REFERENCE : Reference Letter No. Nil dated March 04, 2025
Kind Attention: Dhaval Kachhadiya
DATE OF RECEIPT : 05-03-2025
DATE OF INITIATION : 05-03-2025
DATE OF COMPLETION : 19-03-2025
SAMPLE DESCRIPTION : Laminate sample labeled as

Sample No.	Sample Details
2500662/S01	Sample-1
	<i>Description</i> Regular sample
2500662/S02	Sample-2
	<i>Description</i> Antibacterial sample
Untreated Lab Control	

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Name of Test :

JIS Z 2801: 2010; Amendment 1: 2012

Antibacterial products - Test for antibacterial activity & efficacy.

Test Organisms :

1. Staphylococcus aureus ATCC 6538
2. Klebsiella pneumoniae ATCC 4352
3. Escherichia coli ATCC 8739
4. Pseudomonas aeruginosa ATCC 9027
5. Salmonella typhimurium ATCC 23564
6. Meticillin Resistant Staphylococcus aureus ATCC 43300
7. Enterococcus faecalis MTCC 3159
8. Streptococcus faecalis ATCC 29212
9. Candida albicans ATCC 10231

Experimental Conditions

Sample Size	: 5cm x 5cm
No. of sets	: Triplicates
Pre-treatment of sample	: ETO Sterilisation
Inoculum Carrier	: 1:500 Nutrient Broth
Cover Film	: LDPE Film (4cm x 4cm)
Lab Control	: LDPE Film (5cm x 5cm)
Contact Time	: 24 hours at 35°C
Media and Reagent	: Soyabean-casein digest agar
Incubation Temperature	: 37°C for 48 hours
Neutraliser Used	: SCDLP Broth

Compliance for Conditions of Valid test:

Test Organism	Logarithmic value of number of viable bacteria untreated sample at 0 hours (Lmax- Lmin)/ Lmean	Average number of viable bacteria recovered immediately after inoculation from the Untreated specimen	The number of viable bacteria recovered from each Untreated specimen after incubation at specified contact duration
Staphylococcus aureus ATCC 6538	0.015	Confirms	Confirms
Klebsiella pneumoniae ATCC 4352	0.03	Confirms	Confirms
Escherichia coli ATCC 8739	0.012	Confirms	Confirms
Pseudomonas aeruginosa ATCC 9027	0.008	Confirms	Confirms
Salmonella typhimurium ATCC 23564	0.013	Confirms	Confirms

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Meticillin Resistant Staphylococcus aureus ATCC 43300	0.011	Confirms	Confirms
Enterococcus faecalis MTCC 3159	0.01	Confirms	Confirms
Streptococcus faecalis ATCC 29212	0.007	Confirms	Confirms
Candida albicans ATCC 10231	0.008	Confirms	Confirms
Acceptance	≤ 0.2	$6.2 \times 10^3 - 2.5 \times 10^4$ cells/cm ²	Shall not be less than 6.2×10^2 cells/cm ² (ISO 22196: 6.2×10^1 cells/cm ²)

***Modified wrt test organism**

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Results:

ANTIBACTERIAL ACTIVITY

1. Test Organism : Staphylococcus aureus ATCC 6538

Quantitative Assessment of Activity : JIS Z 2801: 2010; Amendment 1: 2012			Av. Count	Log
Untreated Lab Control : Inoculum on untreated sample at 0 hours (U_0) CFU/cm ²			17500	4.24
Untreated Lab Control : Inoculum on untreated sample at 24 hours (U_t) CFU/cm ²			150000	5.18
Sample Identification	No. of Bacteria on treated Sample (A_t) CFU/cm ²	Log of Bacteria on treated sample (A_t)	Antimicrobial Activity $R=(U_t-U_0) - (A_t-U_0)$	
2500662/S01	<6.25	<0.80	>4.38 (>99.99%)	PASSES
Sample-1				
2500662/S02	<6.25	<0.80	>4.38 (>99.99%)	PASSES
Sample-2				

2. Test Organism : Klebsiella pneumoniae ATCC 4352

Quantitative Assessment of Activity : JIS Z 2801: 2010; Amendment 1: 2012			Av. Count	Log
Untreated Lab Control : Inoculum on untreated sample at 0 hours (U_0) CFU/cm ²			18958	4.28
Untreated Lab Control : Inoculum on untreated sample at 24 hours (U_t) CFU/cm ²			150000	5.18
Sample Identification	No. of Bacteria on treated Sample (A_t) CFU/cm ²	Log of Bacteria on treated sample (A_t)	Antimicrobial Activity $R=(U_t-U_0) - (A_t-U_0)$	
2500662/S01	<6.25	<0.80	>4.38 (>99.99%)	PASSES
Sample-1				
2500662/S02	<6.25	<0.80	>4.38 (>99.99%)	PASSES
Sample-2				

3. Test Organism : Escherichia coli ATCC 8739

Quantitative Assessment of Activity : JIS Z 2801: 2010; Amendment 1: 2012			Av. Count	Log
Untreated Lab Control : Inoculum on untreated sample at 0 hours (U_0) CFU/cm ²			21250	4.33
Untreated Lab Control : Inoculum on untreated sample at 24 hours (U_t) CFU/cm ²			581250	5.76
Sample Identification	No. of Bacteria on treated Sample (A_t) CFU/cm ²	Log of Bacteria on treated sample (A_t)	Antimicrobial Activity $R=(U_t-U_0) - (A_t-U_0)$	
2500662/S01	<6.25	<0.80	>4.97 (>99.99%)	PASSES
Sample-1				
2500662/S02	<6.25	<0.80	>4.97 (>99.99%)	PASSES
Sample-2				

4. Test Organism : Pseudomonas aeruginosa ATCC 9027

Quantitative Assessment of Activity : JIS Z 2801: 2010; Amendment 1: 2012			Av. Count	Log
Untreated Lab Control : Inoculum on untreated sample at 0 hours (U_0) CFU/cm ²			16875	4.23
Untreated Lab Control : Inoculum on untreated sample at 24 hours (U_t) CFU/cm ²			222500	5.35
Sample Identification	No. of Bacteria on treated Sample (A_t) CFU/cm ²	Log of Bacteria on treated sample (A_t)	Antimicrobial Activity $R=(U_t-U_0) - (A_t-U_0)$	

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Results:

4. Test Organism : Pseudomonas aeruginosa ATCC 9027

Quantitative Assessment of Activity : JIS Z 2801: 2010; Amendment 1: 2012			Av. Count	Log
Untreated Lab Control : Inoculum on untreated sample at 0 hours (U_0) CFU/cm ²			16875	4.23
Untreated Lab Control : Inoculum on untreated sample at 24 hours (U_t) CFU/cm ²			222500	5.35
Sample Identification	No. of Bacteria on treated Sample (A_t) CFU/cm ²	Log of Bacteria on treated sample (A_t)	Antimicrobial Activity $R=(U_t-U_0) - (A_t-U_0)$	
2500662/S01	<6.25	<0.80	>4.55 (>99.99%)	PASSES
Sample-1				
2500662/S02	<6.25	<0.80	>4.55 (>99.99%)	PASSES
Sample-2				

5. Test Organism : Salmonella typhimurium ATCC 23564

Quantitative Assessment of Activity : JIS Z 2801: 2010; Amendment 1: 2012			Av. Count	Log
Untreated Lab Control : Inoculum on untreated sample at 0 hours (U_0) CFU/cm ²			20000	4.30
Untreated Lab Control : Inoculum on untreated sample at 24 hours (U_t) CFU/cm ²			256250	5.41
Sample Identification	No. of Bacteria on treated Sample (A_t) CFU/cm ²	Log of Bacteria on treated sample (A_t)	Antimicrobial Activity $R=(U_t-U_0) - (A_t-U_0)$	
2500662/S01	<6.25	<0.80	>4.61 (>99.99%)	PASSES
Sample-1				
2500662/S02	<6.25	<0.80	>4.61 (>99.99%)	PASSES
Sample-2				

6. Test Organism : Meticillin Resistant Staphylococcus aureus ATCC 43300

Quantitative Assessment of Activity : JIS Z 2801: 2010; Amendment 1: 2012			Av. Count	Log
Untreated Lab Control : Inoculum on untreated sample at 0 hours (U_0) CFU/cm ²			22500	4.35
Untreated Lab Control : Inoculum on untreated sample at 24 hours (U_t) CFU/cm ²			131250	5.12
Sample Identification	No. of Bacteria on treated Sample (A_t) CFU/cm ²	Log of Bacteria on treated sample (A_t)	Antimicrobial Activity $R=(U_t-U_0) - (A_t-U_0)$	
2500662/S01	<6.25	<0.80	>4.32 (>99.99%)	PASSES
Sample-1				
2500662/S02	<6.25	<0.80	>4.32 (>99.99%)	PASSES
Sample-2				

7. Test Organism : Enterococcus faecalis MTCC 3159

Quantitative Assessment of Activity : JIS Z 2801: 2010; Amendment 1: 2012			Av. Count	Log
Untreated Lab Control : Inoculum on untreated sample at 0 hours (U_0) CFU/cm ²			18958	4.28
Untreated Lab Control : Inoculum on untreated sample at 24 hours (U_t) CFU/cm ²			80000	4.90
Sample Identification	No. of Bacteria on treated Sample (A_t) CFU/cm ²	Log of Bacteria on treated sample (A_t)	Antimicrobial Activity $R=(U_t-U_0) - (A_t-U_0)$	
2500662/S01	<6.25	<0.80	>4.11 (>99.99%)	PASSES
Sample-1				

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Results:

7. Test Organism : Enterococcus faecalis MTCC 3159

Quantitative Assessment of Activity : JIS Z 2801: 2010; Amendment 1: 2012			Av. Count	Log
Untreated Lab Control : Inoculum on untreated sample at 0 hours (U_0) CFU/cm ²			18958	4.28
Untreated Lab Control : Inoculum on untreated sample at 24 hours (U_t) CFU/cm ²			80000	4.90
Sample Identification	No. of Bacteria on treated Sample (A_t) CFU/cm ²	Log of Bacteria on treated sample (A_t)	Antimicrobial Activity R=(U_t-U_0) - (A_t-U_0)	
2500662/S02	<6.25	<0.80	>4.11 (>99.99%)	PASSES
Sample-2				

8. Test Organism : Streptococcus faecalis ATCC 29212

Quantitative Assessment of Activity : JIS Z 2801: 2010; Amendment 1: 2012			Av. Count	Log
Untreated Lab Control : Inoculum on untreated sample at 0 hours (U_0) CFU/cm ²			19375	4.29
Untreated Lab Control : Inoculum on untreated sample at 24 hours (U_t) CFU/cm ²			318750	5.50
Sample Identification	No. of Bacteria on treated Sample (A_t) CFU/cm ²	Log of Bacteria on treated sample (A_t)	Antimicrobial Activity R=(U_t-U_0) - (A_t-U_0)	
2500662/S01	<6.25	<0.80	>4.71 (>99.99%)	PASSES
Sample-1				
2500662/S02	<6.25	<0.80	>4.71 (>99.99%)	PASSES
Sample-2				

ANTIFUNGAL ACTIVITY

1. Test Organism : Candida albicans ATCC 10231

Quantitative Assessment of Activity : JIS Z 2801: 2010; Amendment 1: 2012			Av. Count	Log
Untreated Lab Control : Inoculum on untreated sample at 0 hours (U_0) CFU/cm ²			23542	4.37
Untreated Lab Control : Inoculum on untreated sample at 24 hours (U_t) CFU/cm ²			250000	5.40
Sample Identification	No. of Fungi on treated Sample (A_t) CFU/cm ²	Log of Fungi on treated sample (A_t)	Antimicrobial Activity R=(U_t-U_0) - (A_t-U_0)	
2500662/S01	1413	3.15	2.25 (99.43%)	PASSES
Sample-1				
2500662/S02	1750	3.24	2.15 (99.30%)	PASSES
Sample-2				

The Standard Bacterial Effectiveness R > 2 log reduction

***** End of Report *****



For Biotech Testing Services LLP

Dr. Shilpa U Nair
Quality Manager

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Annexure

2500662/S01	2500662/S02
	