



CALANTHA BIOTECH PRIVATE LIMITED

REGD. OFFICE: 171, Sanzgiri Sadan, 2nd Floor, A - Block, J.S.S Road, Girgaum, Mumbai - 400004

LABORATORY: C-110, Ansa Industrial Estate, Saki Vihar Road, Andheri (East), Mumbai - 400072

CIN: U74120MH2014PTC258251 Mobile: 9820258144 Email id: madhura.n@calanthabiotech.com

TEST REPORT

Name of the Organization	Natural Dye House 9/283 A, Sellamman Thottam, Park College Road, Karaipudur, Tirupur, Tamil Nadu-641605
Customer Name	Dr. K.H. Prabhu
Sample Description	4 fabric samples-1 white untreated and 3 natural dyed fabrics
Sample Collected by	Dr. Madhura Nerurkar
Sample received on	22/06/2020
Date of Test Initiation	23/06/2020
Sample analysed by	Dr. Madhura Nerurkar
Method of analysis	AATCC 100-2019
Microbiological analysis completed on	26/06/2020
Test Report No.	CBPL/TRT100/00100

Name of the test: Evaluation of Antimicrobial activity by AATCC 100-2019

Organisms used:

1. *Staphylococcus aureus* Strain No. ATCC 6538 (Gram Positive Bacteria) 1.7×10^5 cfu/ml
2. *Klebsiella pneumoniae* Strain No. ATCC 4352 (Gram Negative Bacteria) 1.8×10^5 cfu/ml

Additional Information:

1. Sample size: 48mm discs cut from larger submitted samples
2. No. of swatches used: 16 (1 swatches per 100ml inoculation jar)
3. Method of sterilization: Free steaming using Autoclave
4. Inoculum Carrier: Phosphate Buffered water
5. Neutraliser: DE Broth
6. Contact time: 24 hrs
7. Control sample: Sample at '0' contact time
8. cfu: colony forming unit
9. Percentage reduction of Microorganisms **(R): 100 X (B-A/B)**






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ANTIMICROBIAL ACTIVITY RESULTS

Sample Identification	Test Culture	No. of colonies recovered at '0' hr [B]	No. of colonies recovered at '24' hrs [A]	Reduction of Microorganisms [R]
1. White fabric	<i>S.aureus</i>	1.75 X10 ⁵	1.43 X 10 ⁷	-
	<i>K. pneumoniae</i>	1.89 X10 ⁵	1.61 X 10 ⁷	-
2. Ochre Yellow from turmeric 	<i>S.aureus</i>	1.69 X10 ⁵	2.2 X 10 ⁴	86.98%
	<i>K. pneumoniae</i>	1.78 X10 ⁵	2.9 X 10 ⁴	83.07%
3. Brown from Acacia catechu 	<i>S.aureus</i>	1.65 X10 ⁵	1.6 X 10 ²	99.9%
	<i>K. pneumoniae</i>	1.73 X10 ⁵	2.1 X 10 ²	99.87%
4. Greenish Yellow from kadukai, Neem and tulsi 	<i>S.aureus</i>	1.68 X10 ⁵	5.6 X 10 ³	96.66%
	<i>K. pneumoniae</i>	1.74 X10 ⁵	6.6 X 10 ³	96.2%



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INFERENCE:

Reports analysed by

M. Nerurkar

Dr. Madhura Nerurkar
Quality Manager and Director,
Calantha Biotech Pvt. Ltd.





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TEST REPORT

Name of the Organization	Natural Dye House 9/283 A, Sellamman Thottam, Park College Road, Karaipudur, Tirupur, Tamil Nadu-641605
Customer Name	Dr. K.H. Prabhu
Sample Description	2 fabric samples-1 forest green (NDH 4) and 1 dark grey (NDH 5)
Sample Collected by	Dr. Madhura Nerurkar
Sample received on	22/08/2020
Date of Test Initiation	25/08/2020
Sample analysed by	Dr. Madhura Nerurkar
Method of analysis	AATCC 100-2019
Microbiological analysis completed on	28/08/2020
Test Report No.	CBPL/TRT100/00380

Name of the test: Evaluation of Antimicrobial activity by AATCC 100-2019

Organisms used:

1. *Staphylococcus aureus* Strain No. ATCC 6538 (Gram Positive Bacteria) 1.7×10^5 cfu/ml
2. *E.coli* Strain No. ATCC 10799 (Gram Negative Bacteria) 1.8×10^5 cfu/ml

Additional Information:

1. Sample size: 48mm discs cut from larger submitted samples
2. No. of swatches used: 8 (1 swatch per 100ml inoculation jar)
3. Method of sterilization: Free steaming using Autoclave
4. Inoculum Carrier: Phosphate Buffered water
5. Neutraliser: DE Broth
6. Contact time: 24 hrs
7. Control sample: Sample at '0' contact time
8. cfu: colony forming unit
9. Percentage reduction of Microorganisms **(R): 100 X (B-A/B)**





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ANTIMICROBIAL ACTIVITY RESULTS

Sample Identification	Test Culture	No. of colonies recovered at '0' hr [B]	No. of colonies recovered at '24' hrs [A]	Reduction of Microorganisms [R]
1. Forest green (NDH 4) 	<i>S.aureus</i>	1.75 X10 ⁵	2.4 X 10 ³	98.62%
	<i>E.coil</i>	1.92 X10 ⁵	2.8 X 10 ³	98.54%
2. Dark Grey-(NDH 5) 	<i>S.aureus</i>	1.65 X10 ⁵	3.5 X 10 ²	99.78%
	<i>E.coil</i>	1.72 X10 ⁵	3.7 X 10 ²	99.78%



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TEST REPORT

Name of the Organization	Natural Dye House 9/283 A, Sellamman Thottam, Park College Road, Karaipudur, Tirupur, Tamil Nadu-641605
Customer Name	Dr. K.H. Prabhu
Sample Description	2 fabric samples-1 forest green (NDH 4) and 1 dark grey (NDH 5)
Contact Person	Dr. K.H. Prabhu
Sample Collected by	Quality Manager
Sample received on	22/08/2020
Sample testing Start date	24/08/2020
Sample analysed by	Dr. Madhura Nerurkar
Method of analysis	AATCC 30:III
Microbiological analysis completed on	31/08/2020
Test Report Number	CBPL/TRT30/00057

Name of the test: Evaluation of Antifungal activity by AATCC 30:III-2013

Test Inoculum

1. *Aspergillus niger* ATCC 6275
2. *Candida albicans* ATCC 96901

Additional Information:

1. Sample size: 38mm swatches cut from larger submitted samples
2. Incubation Conditions: 7 days in humidity Chamber (>90% RH) at 28°C



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ANTIFUNGAL ACTIVITY RESULTS

TABLE 1: RESULTS WITH CANDIDA

Sample Identification	Zone of Inhibition	Rating
1. Sample Forest Green 	<i>No zone</i>	1
2. Sample Dark Grey 	<i>No zone</i>	1
Whatmann Filter Paper Viability Control		4





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TABLE 2: RESULTS WITH ASPERGILLUS

Sample Identification	Zone of Inhibition	Rating
1. Sample Forest Green 	<i>No zone</i>	1
2. Sample Dark Grey 	<i>No zone</i>	1
Whatmann Filter Paper Viability Control		4



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Growth on specimen	Rating
No growth	0
Trace of Growth (<10%)	1
Light Growth (10 to 30%)	2
Medium Growth (30 to 60%)	3
Heavy Growth (60% to complete coverage)	4

Evaluation Criteria: For the evaluation of resistance of textile materials, the percentage of surface growth of *Candida albicans* and *Aspergillus niger* is rated according to the table mentioned above.

Reports analysed by

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Quality Manager and Director,
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END OF TEST REPORT

