



The Bombay Textile Research Association

Lal Bahadur Shastri Marg, Ghatkopar (West), Mumbai - 400 086

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BTRA TEST LABORATORIES TEST REPORT

BL/04/2015
Issue 00/ Rev. 00/ 12-10-2015

Report Details : BTL/TR/2001562/MWO/1/2020 dtd 12/08/2020

ULR No. : TC694120000001562F

Customer : Akzo Nobel India Ltd.
Plot No. 1/1, TTC Industrial Area, Thane Belapur
Road, Koperkhairane, Navi Mumbai 400710

Total Number of Samples in Order : 2
Date of performance of test : 17/06/2020
To
12/08/2020

Reference : BTRA/20032020/1 DTD.: 20/03/20

Received on : 17/06/2020

Despatched on :

SAMPLE NO.	2001562/MWO/1
SAMPLE MARK	Dulux Superclean 3 in 1

TEST RESULTS

- Test Material** : Coated panels
- Sample Size** : 50 mm square
- Date Of Test** : 03/08/2020
- Name Of Test** : Test for antibacterial activity and efficacy of plastic, metal , ceramic products JIS Z 2801
- Media Used** : Nutrient broth, SCDLP Broth, Plate count agar
- Test Organism** : *Staphylococcus aureus* ATCC 6538P
Escherichia coli ATCC 25922
Klebsiella pneumoniae ATCC 4352
Pseudomonas aeruginosa
- Incubation Conditions** : 37± 2°C for 24-48 hrs
- Procedure** : **Diluents:** Phosphate buffer solution, Phosphate buffered physiological saline
Culture density: 2.5 to 10 x 10⁵ CFU/ml
Volume of test inoculum inoculated: 0.4 ml
- P.S.** : The value of Antimicrobial activity (R) obtained by the testing methods of this standard shall not be less than 2.0 for the antimicrobial products.

Aruna Apte
(Authorised Signatory)

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Received on : 17/06/2020

Despatched on :

SAMPLE NO.	2001562/MWO/1
SAMPLE MARK	Dulux Superclean 3 in 1

TEST RESULTS

Result :

Test organism: <i>Staphylococcus aureus</i> ATCC 6538P			
No. of bacteria from Untreated sample at 0 hour: $N(U_0) = 1.7 \times 10^3$		Log $N(U_0) = 3.23$	
No. of bacteria from Untreated sample at 24 hours: $N(U_t) = 1.46 \times 10^4$		Log $N(U_t) = 4.16$	
Sample Code	No. of bacteria from Treated Sample at 24 hours $N(A_t)$	Log $N(A_t)$	Antimicrobial activity $R = U_t - A_t$
2001562/MWO/1 (Dulux Superclean 3 in 1)	0.20	-0.68	4.84

Test organism: <i>Escherichia coli</i> ATCC 8739			
No. of bacteria from Untreated sample at 0 hour: $N(U_0) = 3.68 \times 10^3$		Log $N(U_0) = 3.56$	
No. of bacteria from Untreated sample at 24 hours: $N(U_t) = 3.47 \times 10^5$		Log $N(U_t) = 5.54$	
Sample Code	No. of bacteria from Treated Sample at 24 hours $N(A_t)$	Log $N(A_t)$	Antimicrobial activity $R = U_t - A_t$
2001562/MWO/1 (Dulux Superclean 3 in 1)	0.41	-0.38	5.92

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Despatched on :

SAMPLE NO.	2001562/MWO/1
SAMPLE MARK	Dulux Superclean 3 in 1

TEST RESULTS

Test organism: <i>Klebsiella pneumoniae</i> ATCC 4352			
No. of bacteria from Untreated sample at 0 hour: $N(U_0) = 1.76 \times 10^3$		Log $N(U_0) = 3.25$	
No. of bacteria from Untreated sample at 24 hours: $N(U_t) = 4.89 \times 10^4$		Log $N(U_t) = 4.69$	
Sample Code	No. of bacteria from Treated Sample at 24 hours $N(A_t)$	Log $N(A_t)$	Antimicrobial activity $R = U_t - A_t$
2001562/MWO/1 (Dulux Superclean 3 in 1)	0.20	-0.699	5.39

Test organism: <i>Pseudomonas aeruginosa</i>			
No. of bacteria from Untreated sample at 0 hour: $N(U_0) = 3.85 \times 10^3$		Log $N(U_0) = 3.59$	
No. of bacteria from Untreated sample at 24 hours: $N(U_t) = 1.12 \times 10^6$		Log $N(U_t) = 6.05$	
Sample Code	No. of bacteria from Treated Sample at 24 hours $N(A_t)$	Log $N(A_t)$	Antimicrobial activity $R = U_t - A_t$
2001562/MWO/1 (Dulux Superclean 3 in 1)	0.41	-0.38	6.43

Conclusion : The Sample **2001562/MWO/1 (Dulux Superclean 3 in 1)** showed **Antibacterial activity value** against various organisms as follows :
***Staphylococcus aureus* ATCC 6538P – 4.84**
***Escherichia coli* ATCC 8739 – 5.92**
***Klebsiella pneumoniae* ATCC 4352 – 5.39**
***Pseudomonas aeruginosa* – 6.43**
when tested by JIS Z 2801: 2010 Method.

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Report Details : BTL/TR/2001562/MWO/2/2020 dtd 12/08/2020

ULR No. : TC694120000001562F

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12/08/2020

Reference : BTRA/20032020/1 DTD.: 20/03/20

Received on : 17/06/2020

Despatched on :

SAMPLE NO.	2001562/MWO/2
SAMPLE MARK	Dulux Superclean

TEST RESULTS

- Test Material** : Coated panels
- Sample Size** : 50 mm square
- Date Of Test** : 03/08/2020
- Name Of Test** : Test for antibacterial activity and efficacy of plastic, metal , ceramic products JIS Z 2801
- Media Used** : Nutrient broth, SCDLP Broth, Plate count agar
- Test Organism** : *Staphylococcus aureus* ATCC 6538P
Escherichia coli ATCC 25922
Klebsiella pneumoniae ATCC 4352
Pseudomonas aeruginosa
- Incubation Conditions** : 37± 2°C for 24-48 hrs
- Procedure** : **Diluents:** Phosphate buffer solution, Phosphate buffered physiological saline
Culture density: 2.5 to 10 x 10⁵ CFU/ml
Volume of test inoculum inoculated: 0.4 ml
- P.S.** : The value of Antimicrobial activity (R) obtained by the testing methods of this standard shall not be less than 2.0 for the antimicrobial products.

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Received on : 17/06/2020

Despatched on :

SAMPLE NO.	2001562/MWO/2
SAMPLE MARK	Dulux Superclean

TEST RESULTS

Result :

Test organism: <i>Staphylococcus aureus</i> ATCC 6538P			
No. of bacteria from Untreated sample at 0 hour: $N(U_0) = 1.67 \times 10^3$		Log $N(U_0) = 3.22$	
No. of bacteria from Untreated sample at 24 hours: $N(U_t) = 1.52 \times 10^4$		Log $N(U_t) = 4.18$	
Sample Code	No. of bacteria from Treated Sample at 24 hours $N(A_t)$	Log $N(A_t)$	Antimicrobial activity $R = U_t - A_t$
2001562/MWO/2 (Dulux Superclean)	0.625	-0.20	4.38

Test organism: <i>Escherichia coli</i> ATCC 8739			
No. of bacteria from Untreated sample at 0 hour: $N(U_0) = 3.89 \times 10^3$		Log $N(U_0) = 3.59$	
No. of bacteria from Untreated sample at 24 hours: $N(U_t) = 3.95 \times 10^5$		Log $N(U_t) = 5.60$	
Sample Code	No. of bacteria from Treated Sample at 24 hours $N(A_t)$	Log $N(A_t)$	Antimicrobial activity $R = U_t - A_t$
2001562/MWO/2 (Dulux Superclean)	0.21	-0.68	6.28

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Despatched on :

SAMPLE NO.	2001562/MWO/2
SAMPLE MARK	Dulux Superclean

TEST RESULTS

Test organism: <i>Klebsiella pneumoniae</i> ATCC 4352			
No. of bacteria from Untreated sample at 0 hour: $N(U_0) = 1.82 \times 10^3$		Log $N(U_0) = 3.26$	
No. of bacteria from Untreated sample at 24 hours: $N(U_t) = 5.10 \times 10^4$		Log $N(U_t) = 4.71$	
Sample Code	No. of bacteria from Treated Sample at 24 hours $N(A_t)$	Log $N(A_t)$	Antimicrobial activity $R = U_t - A_t$
2001562/MWO/2 (Dulux Superclean)	0.625	-0.20	4.91

Test organism: <i>Pseudomonas aeruginosa</i>			
No. of bacteria from Untreated sample at 0 hour: $N(U_0) = 3.85 \times 10^3$		Log $N(U_0) = 3.59$	
No. of bacteria from Untreated sample at 24 hours: $N(U_t) = 1.12 \times 10^6$		Log $N(U_t) = 6.05$	
Sample Code	No. of bacteria from Treated Sample at 24 hours $N(A_t)$	Log $N(A_t)$	Antimicrobial activity $R = U_t - A_t$
2001562/MWO/2 (Dulux Superclean)	0.625	-0.20	6.21

Conclusion : The Sample **2001562/MWO/2 (Dulux Superclean)** showed **Antibacterial activity value** against various organisms as follows :
Staphylococcus aureus ATCC 6538P – **4.38**
Escherichia coli ATCC 8739 – **6.28**
Klebsiella pneumoniae ATCC 4352 – **4.91**
Pseudomonas aeruginosa – **6.21**
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