7/3/2019

To – NanoPaint – Avi Alon
From – Milouda laboratories

Microbiological Test – Efficacy of Antibacterial Activity – ISO 22196

Laboratory Number: 114906

Sample description: Painted glass coupons **- npg 365 (Sample 0)**

Date sample received: **5/12/2018**
Date Tested: **10/12/2018**

1. **Standard:**
   The test was conducted according to ISO 22196 (2011) and JIS Z 2801.
   Test Purpose:
   This test was conducted to define the antibacterial effectiveness of a preservative added to a device (painted glass coupons)
2. **Inoculation:**
   2.1 The devices were disinfected using spraying with 70% ethanol and left to dry in the biohazard hood over night.
   2.2 The bacterial suspension was diluted to give a final concentration of Bacterium 10^5-10^6 per device (400 µl from the suspension was added according to turbidity).

Strain
Staphylococcus aureus ATCC 43300 (MRSA)
E.coli ATCC 8739

   2.3 The devices were inoculated with the suspensions of the inoculums and were left in the hood for 24 hours at 30-35^{0}C
   2.4 The same procedure 2.1-2.3 was repeated with glass squared used of negative control.

Remarks:
1. The laboratory operates in accordance with recognized standards of the International ISO/IEC 17025 in all tests where recognition has been granted.
2. The microbiological tests are recognized and published by the Israel Board of health.
3. The results relate to the sample tested only.
4. Laboratory results are to be used in their entirety and no part may be quoted or copied to other documents.
5. Sampling was provided by and is the sole responsibility of the customer.
6. The Israel Laboratory Accreditation Authority is not responsible for the test results.

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3. Test Procedure:

3.1 The devices after 24 hours were placed aseptically in sterile bags. 10 ml (NF-Neutralizing fluid) was added to one sample and vortexed for 1 minute and then the diluted sample was plated according to the pour plate procedure using TSA as growth media.
TSA plates were incubated for 120 hours at 30-35^{0}C. After incubation of the test plates, the microorganisms were counted on each plate.

4. Results:

CFU/ DEVICE	**Replicate 1**	***Replicate 2***	***Average (log average)***	***Log reduction (control – sample)***	***Inoculums* CFU/1 ml**
Sample *S.aureus*	30	<10	15 (1.18)		35,000,000
Control *S.aureus*	5,600,000	4,600,000	5,100,000 (6.71)	**5.53**	
Sample *E.coli*	<10	<10	5 (0.7)		54,000.000
Control *E.coli*	4,400,000	3,600,000	4,000,000 (6.6)	**5.9**	
NC	560	40			

5. Quality Control:

The media – TSA lot 1332 was tested for Growth Promotion tests and found to be suitable.

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NF lot 1326 and TSA were tested for sterility and found to be suitable.

6. **Conclusions :**
The preservative added to the devices was able to reduce 5.9 and 5.53 Log of the microorganisms tested.

**********End of Test Results**********

Authorized Signature:

Ronit Ben Avraham PhD
Professional Manager
Microbial Labratory

Preformed by:

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