

# ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

## ALS Technichem (S) Pte Ltd

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## REPORT

OUR REF NO. : ATS/MED/338/12/t  
DATE : 09 July 2012 Page 1 of 2  
COMPANY : Perfectbranz International Pte Ltd  
70 Bendemeer Road  
#01-13 Luzerne  
Singapore 339940  
DATE RECEIVED : 12 June 2012  
DATE ANALYSED : 14 June 2012  
DATE COMPLETED : 05 July 2012  
SAMPLE DESCRIPTION : 1 bottle of Microbeshield sample was received on 12 June 2012  
with references:

Product Description : Microbeshield  
Product concentration : 1:100 dilutions

### Obligatory conditions:

Reference Method : BS EN 1040:2005  
Test organisms : *Staphylococcus aureus* ATCC 6538  
: *Pseudomonas aeruginosa* ATCC 9027  
Test Temperature : 20°C  
Contact Time : 5 and 30 minutes

### Test procedure

1. 1mL of Test Suspension was added to 1mL of water with a 2 minutes premix time.
2. 8ml of undiluted sample at the concentration of 1:100 dilution was transferred to the mixture.
3. The test mixture was mixed well and placed in 20°C ± 1°C water bath.
4. After 5 minutes and 30 minutes of contact time, 1ml of the test mixture was transferred into a tube containing 9ml water.
5. The test mixture was mixed well and placed in 20°C ± 1°C water bath.
6. After a neutralization time of 5mins ± 10sec, 1ml of the mixture was tested immediately using pour-plate method with Tryptone Soya Agar (TSA).
7. The test procedures from step 4 to 6 were repeated for 30 minutes of contact time.
8. The plates were incubated at 35°C for 48 hours.
9. The results were tabulated as shown below.



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Results: On analysis, the following results were obtained:

Test organism	Initial Bacterial Load (cfu/ml)	Log $N_v$ (number of cells per ml in validation suspension)	Log $N_{vo}$ , $N_{v-1}$ (number of cells per ml in mixture)
<i>Staphylococcus aureus</i> ATCC 6538	$1.5 \times 10^8$	8.18	7.18
<i>Pseudomonas aeruginosa</i> ATCC 9027	$1.93 \times 10^8$	8.29	7.29

Test Results for Test Suspension: *Staphylococcus aureus*

Contact Time, minutes	Number of survivors per ml in test mixture (cfu/ml)	Log $N_{ts}$	Log Reduction (Log $N_{vo}$ - Log $N_{ts}$ )	Reduction in viability (% killed)
5	<1	0.00	7.18	>99.99%
30	<1	0.00	7.18	>99.99%

Test Results for Test Suspension: *Pseudomonas aeruginosa*

Contact Time, minutes	Number of survivors per ml in test mixture (cfu/ml)	Log $N_{ts}$	Log Reduction (Log $N_{vo}$ - Log $N_{ts}$ )	Reduction in viability (% killed)
5	<1	0.00	7.29	>99.99%
30	<1	0.00	7.29	>99.99%

Remarks:

All Control and validation were within the basic limits.

Conclusion:

Based on the above results, we are of the opinion that the Microbeshield submitted for analysis had passed the EN 1040:2005 standard for bactericidal activity by demonstrated a log reduction of more than 5 logs and achieved more than 99.99% of microbial reduction under obligatory condition.

Note:

cfu – colony forming unit  
TSA – Trypticase Soy Agar

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