



# ALS Technichem (S) Pte Ltd

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## REPORT

OUR REF NO : ATS/MED/77/04/pl

DATE : 31 March, 2004 Page 1 of 2

COMPANY : Okada Ecotech Pte Ltd  
Blk 1 Pasir Panjang Road  
#07-15/17 Alexandra Distripark  
Singapore 118478

DATE SAMPLE RECEIVED : 23 March, 2004

DATE ANALYZED : 23 March, 2004

DATE TEST COMPLETED : 31 March, 2004

SAMPLE DESCRIPTION : One bottle said to be Biovectrol 20EM (Indoor) was received with references :-  
BN 2004030801

Method: Chemical Disinfectants & antiseptics – Basic Bactericidal Activity (BS EN 1040: 1997)

### Procedure:

1. 1ml of sample was transferred to 79ml of sterile water to make dilution of 1:79.
2. 8ml of diluted samples was transferred to 50ml sterile tubes and 1ml of water was added.
3. 1ml of the bacterial test suspension was inoculated into the tube.
4. The test mixture was mixed well and placed in 20°C ± 1°C water bath.
5. After 40min and 60min ± 10sec contact time, 1ml of the test mixture was transferred into a tube containing 8ml neutralizer and 1ml water.
6. The test mixture was mixed well and placed in 20°C ± 1°C water bath.
7. After a neutralization time of 5mins ± 10sec, 1ml of the mixture was tested immediately using pour-plate method with Tryptone Soya Agar (TSA).
8. The plates were incubated at 35°C for 48 hours.
9. This procedure was repeated for the other bacterial test suspensions.

Results : On analysis, the following results were obtained :

Test organism	Initial Bacterial Load (cfu/ml)
<i>Staphylococcus aureus</i> (ATCC 6538)	3.80 x 10 <sup>8</sup>
<i>Pseudomonas aeruginosa</i> (ATCC 15442)	1.55 x 10 <sup>8</sup>
<i>Salmonella typhimurium</i> (ATCC 14028)	3.20 x 10 <sup>8</sup>
<i>Escherichia coli</i> (ATCC 25922)	1.31 x 10 <sup>8</sup>

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## TEST RESULTS FOR SAMPLE AT DILUTION OF 1:79

Test organism	After contact time of 40 mins		After contact time of 60 mins	
	Observation of plates	Total Viable Count (cfu/ml)	Observation of plates	Total Viable Count (cfu/ml)
<i>Staphylococcus aureus</i>	Colonies observed	1.20 x10 <sup>6</sup>	Colonies observed	1.05 x10 <sup>6</sup>
<i>Pseudomonas aeruginosa</i>	Colonies observed	1.50 x10 <sup>6</sup>	No Colonies observed	1.40 x10 <sup>6</sup>
<i>Salmonella typhimurium</i>	Colonies observed	3.60 x10 <sup>4</sup>	Colonies observed	2.20 x10 <sup>3</sup>
<i>Escherichia coli</i>	Colonies observed	80	No Colonies observed	30
Test organism	Reduction in viability (% killed)			
	After contact time of 40 mins		After contact time of 60 mins	
<i>Staphylococcus aureus</i>	99.68 %		99.72 %	
<i>Pseudomonas aeruginosa</i>	99.03 %		99.10 %	
<i>Salmonella typhimurium</i>	99.99 %		> 99.99 %	
<i>Escherichia coli</i>	> 99.99%		> 99.99%	

NOTES :  
 cfu - colony forming unit

ALS TECHNICHEM (S) PTE LTD

JEANETTE WONG M.H.  
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## REPORT

OUR REF NO : ATS/MED/61/04/pl  
DATE : 17 March, 2004 Page 1 of 3  
COMPANY : Okada Ecotech Pte Ltd  
Blk 1 Pasir Panjang Road  
#07-15/17 Alexandra Distripark  
Singapore 118478  
DATE SAMPLE RECEIVED : 8 March, 2004  
DATE ANALYZED : 8 March, 2004  
DATE TEST COMPLETED : 17 March, 2004  
SAMPLE DESCRIPTION : One bottle said to be Biovectrol 20EM (Indoor) was received with references :-  
BN 2004030801

Method: Chemical Disinfectants & antiseptics – Basic Bactericidal Activity (BS EN 1040: 1997)

### Procedure:

21. 1ml of sample was transferred to 19ml of sterile water to make dilution of 1:19.
22. 1 ml of sample was transferred to 39ml of sterile water to make dilution of 1:39.
23. 8ml of diluted samples was transferred to 50ml sterile tubes and 1ml of water was added.
24. 1ml of the bacterial test suspension was inoculated into the tube.
25. The test mixture was mixed well and placed in 20°C ± 1°C water bath.
26. After 5min, 10min and 30min ± 10sec contact time, 1ml of the test mixture was transferred into a tube containing 8ml neutralizer and 1ml water.
27. The test mixture was mixed well and placed in 20°C ± 1°C water bath.
28. After a neutralization time of 5mins ± 10sec, 1ml of the mixture was tested immediately using pour-plate method with Tryptone Soya Agar (TSA).
29. The plates were incubated at 35°C for 48 hours.
30. This procedure was repeated for the other bacterial test suspensions.

Results : On analysis, the following results were obtained;

Test organism	Initial Bacterial Load (cfu/ml)
<i>Staphylococcus aureus</i> (ATCC 6538)	1.0 x 10 <sup>8</sup>
<i>Pseudomonas aeruginosa</i> (ATCC 15442)	1.0 x 10 <sup>8</sup>
<i>Salmonella typhimurium</i> (ATCC 14028)	1.75 x 10 <sup>8</sup>
<i>Escherichia coli</i> (ATCC 25922)	1.2 x 10 <sup>8</sup>

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## TEST RESULTS FOR SAMPLE AT DILUTION OF 1:19

Test organism	After contact time of 5 mins		After contact time of 30 mins	
	Observation of plates	Total Viable Count (cfu/ml)	Observation of plates	Total Viable Count (cfu/ml)
<i>Staphylococcus aureus</i>	Colonies observed	3.9 x10 <sup>5</sup>	Colonies observed	6.3 x10 <sup>5</sup>
<i>Pseudomonas aeruginosa</i>	Colonies observed	1.0 x10 <sup>2</sup>	No Colonies observed	< 10
<i>Salmonella typhimurium</i>	Colonies observed	1.11 x10 <sup>9</sup>	Colonies observed	20
<i>Escherichia coli</i>	Colonies observed	10	No Colonies observed	< 10
Test organism	Reduction in viability (% killed)			
	After contact time of 5 mins		After contact time of 30 mins	
<i>Staphylococcus aureus</i>	96.10 %		99.37 %	
<i>Pseudomonas aeruginosa</i>	> 99.99 %		> 99.99 %	
<i>Salmonella typhimurium</i>	99.94 %		> 99.99 %	
<i>Escherichia coli</i>	> 99.99%		> 99.99%	

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## TEST RESULTS FOR SAMPLE AT DILUTION OF 1:39

Test organism	After contact time of 10 mins		After contact time of 30 mins	
	Observation of plates	Total Viable Count (cfu/ml)	Observation of plates	Total Viable Count (cfu/ml)
<i>Staphylococcus aureus</i>	Colonies observed	$3.8 \times 10^6$	Colonies observed	$1.20 \times 10^6$
<i>Pseudomonas aeruginosa</i>	Colonies observed	$3.5 \times 10^4$	Colonies observed	$1.38 \times 10^3$
<i>Salmonella typhimurium</i>	Colonies observed	$4.1 \times 10^2$	Colonies observed	$1.2 \times 10^2$
<i>Escherichia coli</i>	Colonies observed	$1.95 \times 10^6$	Colonies observed	$1.60 \times 10^4$
Test organism	Reduction in viability (% killed)			
	After contact time of 10 mins		After contact time of 30 mins	
<i>Staphylococcus aureus</i>	96.20 %		98.80 %	
<i>Pseudomonas aeruginosa</i>	99.97 %		> 99.99 %	
<i>Salmonella typhimurium</i>	> 99.99 %		> 99.99 %	
<i>Escherichia coli</i>	98.38 %		99.99 %	

NOTES :  
cfu - colony forming unit

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