



Abbott Analytical



Consulting Scientists to the Disinfectant Industry

Certificate of Analysis

Sample(s): One sample of EnviroCair 4% Sanitiser Solution

Received from: Biotech International. 14 Berkeley Mews, London, W1H 7AX

Date received: 17 May 2011 **Date tested:** 25 May 2011

Certificate no: 11E.046B-L6.MAF **Certificate date:** 27 May 2011

Sample ref: 11E/046 **Page:** 1 of 2

Analysis required: EN 1276, Chemical disinfectants and antiseptics - Quantitative suspension test for the evaluation of bactericidal activity of chemical disinfectants and antiseptics used in food, industrial, domestic and institutional areas - Test method and requirements (phase 2, step 1); *modified to determine if product can achieve 1g reduction of 6 or greater.*

Product stored at: Room temperature

Active substance: Not declared

Test conditions: Dirty

Interfering substance: 3.0g/l bovine albumin

Product test concentration: Neat as received
(80% in test suspension)

Product diluent used during test: N/A

Contact time: 5 minutes

Test temperature: 20°C ± 0.5°C

Neutralising solution: 30g/l polysorbate 80, 3g/l lecithin, 1g/l histidine, 1g/l cysteine

Incubation temperature: 37°C ± 1°C

Identification of bacterial strain(s) used:

<i>Pseudomonas aeruginosa</i>	NCIMB 10421
<i>Escherichia coli</i>	NCTC 10418
<i>Staphylococcus aureus</i>	NCTC 10788
<i>Enterococcus hirae</i>	NCIMB 8192

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Test results:

Test Organism	<i>Pseudomonas aeruginosa</i>		<i>Escherichia coli</i>		<i>Staphylococcus aureus</i>		<i>Enterococcus hirae</i>	
Validation Suspension (N_v)	Vc1 129	Vc2 141	Vc1 129	Vc2 137	Vc1 156	Vc2 163	Vc1 173	Vc2 153
	$\bar{x} = 135$		$\bar{x} = 133$		$\bar{x} = 160$		$\bar{x} = 163$	
Experimental Control (A)	Vc1 113	Vc2 127	Vc1 101	Vc2 122	Vc1 132	Vc2 119	Vc1 157	Vc2 163
	$\bar{x} = 120 \geq 0.5N_{v0}$		$\bar{x} = 112 \geq 0.5N_{v0}$		$\bar{x} = 126 \geq 0.5N_{v0}$		$\bar{x} = 160 \geq 0.5N_{v0}$	
Neutraliser Control (B)	Vc1 109	Vc2 98	Vc1 98	Vc2 119	Vc1 125	Vc2 138	Vc1 154	Vc2 144
	$\bar{x} = 104 \geq 0.5N_{v0}$		$\bar{x} = 109 \geq 0.5N_{v0}$		$\bar{x} = 132 \geq 0.5N_{v0}$		$\bar{x} = 149 \geq 0.5N_{v0}$	
Method Validation (C)	Vc1 115	Vc2 102	Vc1 108	Vc2 92	Vc1 116	Vc2 130	Vc1 147	Vc2 161
	$\bar{x} = 109 \geq 0.5N_{v0}$		$\bar{x} = 100 \geq 0.5N_{v0}$		$\bar{x} = 123 \geq 0.5N_{v0}$		$\bar{x} = 154 \geq 0.5N_{v0}$	
Test Suspension	10^{-7} Vc1 247	Vc2 224	Vc1 220	Vc2 282	Vc1 254	Vc2 236	Vc1 332	Vc2 315
	10^{-8} Vc1 26	Vc2 28	Vc1 27	Vc2 23	Vc1 36	Vc2 27	Vc1 33	Vc2 35
(N)	$\bar{w} = 2.39 \times 10^9$		$\bar{w} = 2.51 \times 10^9$		$\bar{w} = 2.51 \times 10^9$		$\bar{w} = 3.25 \times 10^9$	
(N₀ = 0.1N)	lg N = 9.38		lg N = 9.40		lg N = 9.40		lg N = 9.51	
	lg N ₀ = 8.38		lg N ₀ = 8.40		lg N ₀ = 8.40		lg N ₀ = 8.51	
Results	10^0 Vc1 <14	Vc2 <14	Vc1 <14	Vc2 <14	Vc1 <14	Vc2 <14	Vc1 <14	Vc2 <14
(Na)	10 \bar{x} < 140		10 \bar{x} < 140		10 \bar{x} < 140		10 \bar{x} < 140	
(R)	lg Na < 2.15		lg Na < 2.15		lg Na < 2.15		lg Na < 2.15	
	lg R > 6.23		lg R > 6.25		lg R > 6.25		lg R > 6.37	
lg R \geq 6	YES		YES		YES		YES	

Vc = plate count per ml

\bar{x} = average of Vc1 and Vc2

\bar{w} = weighted mean of \bar{x}

R = reduction (lg R = lg N₀ - lg Na)

Requirements & Conclusion:

This batch of EnviroCair 4% Sanitiser Solution, when used neat, obtains a log 6 reduction in 5 minutes at 20°C under dirty conditions against all of the reference organisms detailed.

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