

**Report:** BIS.18M044.IB

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**Test Report:**

**EN 1276:2009**

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)

**Identification of the test laboratory:**

Abbott Analytical Ltd  
Unit 2, Hickmans Road, Birkenhead, CH41 1JH, United Kingdom

**Identification of the client:**

Biosan Ltd  
PMJ House, Highlands Road, Shirley, Solihull, B90 4ND,  
United Kingdom

**Identification of the sample:**

18M/044

Name of the product:

Anolyte Lab Test Sample

Batch number/reference and  
expiry date (if available):

Lot no: B/RW/001, Sample date: 14/12/2018

Date of delivery:

19 December 2018

Storage conditions:

Room temperature in darkness

Product diluent recommended by  
the manufacturer for use:

Not disclosed

Active substance(s) and their  
concentrations (s) (optional):

Not disclosed

Appearance of the product:

Clear colourless liquid

**Notes:**

- 1) The test results in this report relate only to the sample(s) tested.
- 2) This test report may not be reproduced except in full, adapted, altered or used to create a derivative work, without written approval from Abbott Analytical Ltd.

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**Test method and its validation:**

Method: Dilution-neutralisation  
Neutraliser: 30.0 g/l Polysorbate 80 + 3.0 g/l Lecithin + 1.0 g/l L-histidine + 1.0 g/l L-cysteine (Neutraliser A)  
Neutraliser validation: Validated in accordance with EN 1276:2009 (5.5.2)

**Experimental conditions:**

Period of analysis: 16 January 2019 to 18 January 2019  
Product test concentration(s): Neat, 1:5, 1:10  
Diluent used for product test solution(s): Hard water (N/A for neat)  
Contact time(s) 5 min  $\pm$  10 s  
Test temperature(s) 20°C  $\pm$  1°C  
Interfering substance 0.3 g/l bovine albumin (clean conditions)  
Temperature of incubation 36°C  $\pm$  1°C  
Identification of the bacterial strain(s) used  
*Pseudomonas aeruginosa* (DSM 939)  
*Escherichia coli* (DSM 682)  
*Staphylococcus aureus* (DSM 799)  
*Enterococcus hirae* (DSM 3320)

**Deviations:** None

**Remarks:**

- 1) All test conditions are as requested by the client, irrespective of whether these are in accordance with EN 1276:2009 (5.4.2) or EN 1276:2009 (5.5.1.1).
- 2) Products can only be tested at a concentration of 80% or less as some dilution is always produced by adding the test organisms and interfering substance.

**Requirements:**

The product shall demonstrate at least a 5 decimal log (lg) reduction against all test organisms.

**Conclusion:**

According to EN 1276:2009, Anolyte Lab Test Sample possesses bactericidal activity when tested neat or at a concentration of 1:5, with a contact time of 5 minutes at 20°C under clean conditions against all of the referenced strains of *Pseudomonas aeruginosa*, *Escherichia coli*, *Staphylococcus aureus* and *Enterococcus hirae*.

**Report prepared by:**

Signed:



Name:

Tony Watson

Position:

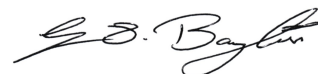
General Manager

Date:

25 January 2019

**Approved by:**

Signed:



Name:

Gareth Bayliss

Position:

Laboratory Manager

Date:

25 January 2019

**Results:** EN 1276:2009

Test organism: *Pseudomonas aeruginosa* (DSM 939)  
 Date of test: 16 January 2019  
 Test temperature: 20°C ± 1°C Incubation temperature: 36°C ± 1°C  
 Dilution-neutralisation method: Pour plate Number of plates: 1 / ml  
 Neutraliser: A Test conditions: Clean conditions

**Validation and controls:**

Validation suspension ( $N_{v0}$ )			Experimental conditions control (A)			Neutraliser or filtration control (B)			Method validation (C) Product conc.: <i>Neat</i>		
Vc1	59	$\bar{x} =$	Vc1	65	$\bar{x} =$	Vc1	64	$\bar{x} =$	Vc1	63	$\bar{x} =$
Vc2	60	59.5	Vc2	60	62.5	Vc2	62	63	Vc2	67	65
30 ≤ $\bar{x}$ of $N_{v0}$ ≤ 160 ? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no			$\bar{x}$ of A ≥ 0.5 x $\bar{x}$ of $N_{v0}$ ? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no			$\bar{x}$ of B ≥ 0.5 x $\bar{x}$ of $N_{v0}$ ? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no			$\bar{x}$ of C ≥ 0.5 x $\bar{x}$ of $N_{v0}$ ? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no		

**Test suspension ( $N$  and  $N_0$ ):**

$N$	Vc1	Vc2	$\bar{x}$ wm = $4.40 \times 10^8$ ; $\lg N = 8.64$ $N_0 = N/10$ ; $\lg N_0 = 7.64$ $7.17 \leq \lg N_0 \leq 7.70$ ? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no
$10^{-6}$	>330	>330	
$10^{-7}$	45	43	

**Test:**

Conc. of the product	Contact time	Vc1	Vc2	$N_a$ ( $\bar{x} \times 10$ )	$\lg N_a$	$\lg R$ ( $\lg N_0 - \lg N_a$ )
<i>Neat</i>	5 min	0	0	<140	<2.15	>5.49
1:5	5 min	0	0	<140	<2.15	>5.49
1:10	5 min	18	18	180	2.26	5.38

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Results: EN 1276:2009

Test organism:	<i>Escherichia coli</i>	(DSM 682)
Date of test:	16 January 2019	
Test temperature:	20°C ± 1°C	Incubation temperature: 36°C ± 1°C
Dilution-neutralisation method:	Pour plate	Number of plates: 1 / ml
Neutraliser:	A	Test conditions: Clean conditions

**Validation and controls:**

Validation suspension ( $N_{V_0}$ )			Experimental conditions control (A)			Neutraliser or filtration control (B)			Method validation (C) Product conc.: <i>Neat</i>		
Vc1	74	$\bar{x} =$	Vc1	71	$\bar{x} =$	Vc1	69	$\bar{x} =$	Vc1	71	$\bar{x} =$
Vc2	71	72.5	Vc2	71	71	Vc2	73	71	Vc2	73	72
30 ≤ $\bar{x}$ of $N_{V_0}$ ≤ 160 ?			$\bar{x}$ of A ≥ 0.5 × $\bar{x}$ of $N_{V_0}$ ?			$\bar{x}$ of B ≥ 0.5 × $\bar{x}$ of $N_{V_0}$ ?			$\bar{x}$ of C ≥ 0.5 × $\bar{x}$ of $N_{V_0}$ ?		
<input checked="" type="checkbox"/> yes <input type="checkbox"/> no			<input checked="" type="checkbox"/> yes <input type="checkbox"/> no			<input checked="" type="checkbox"/> yes <input type="checkbox"/> no			<input checked="" type="checkbox"/> yes <input type="checkbox"/> no		

**Test suspension ( $N$  and  $N_0$ ):**

$N$	Vc1	Vc2	$\bar{x}$ wm = $2.55 \times 10^8$ ; $\lg N = 8.41$ $N_0 = N/10$ ; $\lg N_0 = 7.41$ $7.17 \leq \lg N_0 \leq 7.70$ ? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no
$10^{-6}$	247	259	
$10^{-7}$	26	30	

**Test:**

Conc. of the product	Contact time	Vc1	Vc2	$N_a$ ( $\bar{x} \times 10$ )	$\lg N_a$	$\lg R$ ( $\lg N_0 - \lg N_a$ )
<i>Neat</i>	5 min	0	0	<140	<2.15	>5.26
1:5	5 min	1	5	<140	<2.15	>5.26
1:10	5 min	>330	>330	>3300	>3.52	<3.89

**Results:** EN 1276:2009

Test organism: *Staphylococcus aureus* (DSM 799)  
 Date of test: 16 January 2019  
 Test temperature: 20°C ± 1°C Incubation temperature: 36°C ± 1°C  
 Dilution-neutralisation method: Pour plate Number of plates: 1 / ml  
 Neutraliser: A Test conditions: Clean conditions

**Validation and controls:**

Validation suspension ( $N_{v0}$ )			Experimental conditions control (A)			Neutraliser or filtration control (B)			Method validation (C) Product conc.: <i>Neat</i>		
Vc1	34	$\bar{x} =$ 36.5	Vc1	34	$\bar{x} =$ 33	Vc1	30	$\bar{x} =$ 30.5	Vc1	31	$\bar{x} =$ 30.5
Vc2	39		Vc2	32		Vc2	31		Vc2	30	
30 ≤ $\bar{x}$ of $N_{v0}$ ≤ 160 ? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no			$\bar{x}$ of A ≥ 0.5 × $\bar{x}$ of $N_{v0}$ ? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no			$\bar{x}$ of B ≥ 0.5 × $\bar{x}$ of $N_{v0}$ ? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no			$\bar{x}$ of C ≥ 0.5 × $\bar{x}$ of $N_{v0}$ ? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no		

**Test suspension ( $N$  and  $N_0$ ):**

$N$	Vc1	Vc2	$\bar{x}$ wm = $1.61 \times 10^8$ ; $\lg N = 8.21$ $N_0 = N/10$ ; $\lg N_0 = 7.21$ $7.17 \leq \lg N_0 \leq 7.70$ ? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no
$10^{-6}$	164	159	
$10^{-7}$	15	16	

**Test:**

Conc. of the product	Contact time	Vc1	Vc2	$N_a$ ( $\bar{x} \times 10$ )	$\lg N_a$	$\lg R$ ( $\lg N_0 - \lg N_a$ )
<i>Neat</i>	5 min	0	0	<140	<2.15	>5.06
1:5	5 min	0	0	<140	<2.15	>5.06
1:10	5 min	119	125	1220	3.09	4.12

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Results: EN 1276:2009

Test organism: *Enterococcus hirae* (DSM 3320)  
 Date of test: 16 January 2019  
 Test temperature: 20°C ± 1°C Incubation temperature: 36°C ± 1°C  
 Dilution-neutralisation method: Pour plate Number of plates: 1 / ml  
 Neutraliser: A Test conditions: Clean conditions

**Validation and controls:**

Validation suspension ( $N_{V_0}$ )			Experimental conditions control (A)			Neutraliser or filtration control (B)			Method validation (C) Product conc.: <i>Neat</i>		
Vc1	39	$\bar{x} =$	Vc1	34	$\bar{x} =$	Vc1	39	$\bar{x} =$	Vc1	33	$\bar{x} =$
Vc2	39	39	Vc2	37	35.5	Vc2	32	35.5	Vc2	32	32.5
30 ≤ $\bar{x}$ of $N_{V_0}$ ≤ 160 ?			$\bar{x}$ of A ≥ 0.5 × $\bar{x}$ of $N_{V_0}$ ?			$\bar{x}$ of B ≥ 0.5 × $\bar{x}$ of $N_{V_0}$ ?			$\bar{x}$ of C ≥ 0.5 × $\bar{x}$ of $N_{V_0}$ ?		
<input checked="" type="checkbox"/> yes <input type="checkbox"/> no			<input checked="" type="checkbox"/> yes <input type="checkbox"/> no			<input checked="" type="checkbox"/> yes <input type="checkbox"/> no			<input checked="" type="checkbox"/> yes <input type="checkbox"/> no		

**Test suspension ( $N$  and  $N_0$ ):**

$N$	Vc1	Vc2	$\bar{x}$ $w_m = 1.94 \times 10^8$ ; $\lg N = 8.29$ $N_0 = N/10$ ; $\lg N_0 = 7.29$ $7.17 \leq \lg N_0 \leq 7.70$ ? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no
$10^{-6}$	190	197	
$10^{-7}$	21	19	

**Test:**

Conc. of the product	Contact time	Vc1	Vc2	$N_a$ ( $\bar{x} \times 10$ )	$\lg N_a$	$\lg R$ ( $\lg N_0 - \lg N_a$ )
<i>Neat</i>	5 min	0	0	<140	<2.15	>5.14
1:5	5 min	0	0	<140	<2.15	>5.14
1:10	5 min	32	34	330	2.52	4.77