Test Report for Handwash Products
BS EN 13727:2012+A2:2015

Chemical Disinfectants and Antiseptics - Quantitative Suspension Test for the Evaluation of Bactericidal Activity in the Medical Area - Test Method and Requirements (phase 2, step 1)

Company Name:	Modu Hygiene
Report Date:	05/07/2024
Melbec Ref Number:	75481
Name of Test Product:	Modu Hygiene Antibacterial Foam Soap
Batch Number:	F532

Melbec Microbiology Ltd, Imperial House, Kingsway Haslingden BB4 4QJ. Tel: 01706 214492
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Sample Details:

Manufacture / Supplier:.....	Modu Hygiene
Product storage conditions:.....	Ambient
Appearance of the product (as supplied):.....	Clear colourless liquid
Appearance of the product (after dilution):.....	Clear colourless liquid
Appearance of product with interfering substance and test organism:	Cloudy brown liquid
Active substance and concentration:.....	BKC/DDAC/PE
Product dilution preparation.....	Volume/Volume
Product dilutions/concentrations:.....	50 %
Diluent used to dilute product:.....	Dilute product with hard water then use deionised water for the test
Incubation temperature:	35 ^{o}C to 38 ^{o}C

The test product was in satisfactory condition for testing when received.

Date product received: 18/06/24 Test date: 25/06/2024, 01/07/2024

Experimental Conditions:

Interfering substance:	Bovine Albumin (dirty 3.0g/l) and 3ml/l erythrocytes
Test temperature:	19 to 21 ^{o}C
Contact time:	30 Seconds
Test organisms:	Pseudomonas aeruginosa ATCC 15442
	Staphylococcus aureus ATCC 6538
	Escherichia coli K12 NCTC 10538
	Enterococcus hirae ATCC 10541

Deviations:

EN 13727 states incubation temperature of 36±1°C or 37±1°C. Melbec Microbiology Ltd method states 35°C - 38°C.
The test product was tested at one concentration only at the clients request hence the testing is based on the test method of EN 13727.

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Requirements of the Standard:
The test product shall demonstrate at least a 3 decimal logarithm (lg) reduction when tested in accordance with this standard under simulated dirty conditions.

Conclusion:

For the product Modu Hygiene Antibacterial Foam Soap, [Batch code: F532] the log reduction requirements as specified in EN 13727:2012 (3 lg within the relevant contact time) were met in dirty conditions with a contact time of 30 Seconds.

Report authorised by:

Name: Liam Stephens
Position: Technical Manager
Date: 05/07/2024

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Test Results:

Neutralisation Method Used:

Membrane filtration

Rinsing Liquid Used: N7

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Pseudomonas aeruginosa ATCC 15442

Validation and controls												Melbec Ref No		75481
Validation suspension (*NvB*) x 10^3			Validation suspension (Nv_0)			Experimental conditions control (***A***)			Neutralizer control (***B***)			Method validation (***C***)		
Vc 1	N/A	$\bar{x}$ =	*Vc* 1	100	$\bar{x}$ =	*Vc* 1	50	$\bar{x}$ =	*Vc* 1	45	$\bar{x}$ =	*Vc* 1	58	$\bar{x}$ =
Vc 2	N/A	N/A	*Vc* 2	81	90.5	*Vc* 2	49	49.5	*Vc* 2	49	47	*Vc* 2	49	53.5
$3.0x10^4 \leq \bar{x}$ of *NvB* $\leq 1.6x10^5$? **N/A**			30 ≤ $\bar{x}$ of Nv_0 ≤ 160? **Yes**			$\bar{x}$ of A is ≥ 0.5 x $\bar{x}$ of Nv_0? **Yes**			$\bar{x}$ of B is ≥ 0.5 x $\bar{x}$ of Nv_0 ? **Yes**			$\bar{x}$ of C is ≥ 0.5 x $\bar{x}$ of Nv_0 ? **Yes**		

Test suspension and test

	N	*Vc* 1	*Vc* 2			
Test suspension (*N* and N_0):	10^{-6}	>330	>330	X m	4.30E+08	; lg *N* = 8.63
				$N_0 = N/10$	; lg N_0=	7.63
	10^{-7}	51	35	7.17 ≤ lgN_0 ≤ 7.70?		Yes
				$\bar{x}$ quotient = >5 and <15?		N/A

Conc. of the active (%)	10^{-X}	*Vc* 1	*Vc* 2	*Na* = $\bar{x}$	lg*Na*	lg*R* N_0 = 7.63		Contact time	Result
50%	-1	<14	<14	1.40E+02	<2.15		>5.48	30 Seconds	**Pass**
	-2	-	-						

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Staphylococcus aureus ATCC 6538

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Validation suspension (*NvB)* x 10^3			Validation suspension (Nv_0)			Experimental conditions control (***A***)			Neutralizer control (***B***)			Method validation (***C***)		
Vc 1	N/A	$\bar{x}$ =	*Vc* 1	41	$\bar{x}$ =	*Vc* 1	55	$\bar{x}$ =	*Vc* 1	48	$\bar{x}$ =	*Vc* 1	63	$\bar{x}$ =
Vc 2	N/A	N/A	*Vc* 2	40	40.5	*Vc* 2	55	55	*Vc* 2	42	45	*Vc* 2	56	59.5
$3.0x10^4 \leq \bar{X}$ of *NvB* $\leq 1.6x10^5$? **N/A**			$30 \leq \bar{X}$ of $Nv_0 \leq 160$? **Yes**			$\bar{X}$ of A is $\geq 0.5 \times \bar{X}$ of Nv_0? **Yes**			$\bar{X}$ of B is $\geq 0.5 \times \bar{X}$ of Nv_0 ? **Yes**			$\bar{X}$ of C is $\geq 0.5 \times \bar{X}$ of Nv_0 ? **Yes**		

Test suspension and test

Test suspension (*N* and N_0):	***N***	*Vc* 1	*Vc* 2	X wm 2.90E+08	; lg *N* = 8.46
	10^{-6}	311	270	$N_0 = N/10$	; lg N_0= 7.46
	10^{-7}	30	28	$7.17 \leq \lg N_0 \leq 7.70$?	Yes
				$\bar{x}$ quotient = >5 and <15?	10.02

Conc. of the active (%)	10^{-X}	*Vc* 1	*Vc* 2	*Na* = $\bar{x}$	lg*Na*	lg*R* N_0 = 7.46		Contact time	Result
50%	-1	<14	<14	1.40E+02	<2.15		>5.31	30 Seconds	**Pass**
	-2	-	-						

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Escherichia coli K12 NCTC 10538

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Validation suspension (*NvB*) x 10^3			Validation suspension (Nv_0)			Experimental conditions control (***A***)			Neutralizer control (***B***)			Method validation (***C***)		
Vc 1	N/A	$\bar{x}$ =	*Vc* 1	93	$\bar{x}$ =	*Vc* 1	111	$\bar{x}$ =	*Vc* 1	80	$\bar{x}$ =	*Vc* 1	73	$\bar{x}$ =
Vc 2	N/A	N/A	*Vc* 2	68	80.5	*Vc* 2	97	104	*Vc* 2	61	70.5	*Vc* 2	70	71.5
$3.0x10^4 \leq \bar{X}$ of *NvB* $\leq 1.6x10^5$? **N/A**			30 ≤ $\bar{X}$ of Nv_0 ≤ 160? **Yes**			$\bar{X}$ of A is ≥ 0.5 x $\bar{X}$ of Nv_0? **Yes**			$\bar{X}$ of B is ≥ 0.5 x $\bar{X}$ of Nv_0 ? **Yes**			$\bar{X}$ of C is ≥ 0.5 x $\bar{X}$ of Nv_0 ? **Yes**		

Test suspension and test

Test suspension (*N* and N_0):	***N***	*Vc* 1	*Vc* 2	X m 3.80E+08 ; lg *N* = 8.58
	10^{-6}	>330	>330	$N_0 = N/10$; lg N_0= 7.58
	10^{-7}	43	33	7.17 ≤ lgN_0 ≤ 7.70? Yes
				$\bar{x}$ quotient = >5 and <15? N/A

Conc. of the active (%)	10^{-X}	*Vc* 1	*Vc* 2	*Na* = $\bar{x}$	lg*Na*	lg*R* N_0 = 7.58	Contact time	Result
50%	-1	<14	<14	1.40E+02	<2.15	>5.43	30 Seconds	**Pass**
	-2	-	-					

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Enterococcus hirae ATCC 10541

Validation and controls												Melbec Ref No		75481
Validation suspension (*NvB)* x 10^3			Validation suspension (Nv_0)			Experimental conditions control (***A***)			Neutralizer control (***B***)			Method validation (***C***)		
Vc 1	N/A	$\bar{x}$ =	*Vc* 1	88	$\bar{x}$ =	*Vc* 1	83	$\bar{x}$ =	*Vc* 1	81	$\bar{x}$ =	*Vc* 1	70	$\bar{x}$ =
Vc 2	N/A	N/A	*Vc* 2	85	86.5	*Vc* 2	68	75.5	*Vc* 2	69	75	*Vc* 2	67	68.5
$3.0x10^4 \leq \bar{x}$ of *NvB* $\leq 1.6x10^5$? **N/A**			$30 \leq \bar{x}$ of $Nv_0 \leq 160$? **Yes**			$\bar{x}$ of A is $\geq 0.5 \times \bar{x}$ of Nv_0? **Yes**			$\bar{x}$ of B is $\geq 0.5 \times \bar{x}$ of Nv_0 ? **Yes**			$\bar{x}$ of C is $\geq 0.5 \times \bar{x}$ of Nv_0 ? **Yes**		

Test suspension and test

Test suspension (*N* and N_0):	***N***	*Vc* 1	*Vc* 2	X m 3.65E+08 ; lg *N* = 8.56
	10^{-6}	>330	>330	$N_0 = N/10$; lg N_0= 7.56
	10^{-7}	38	35	$7.17 \leq \lg N_0 \leq 7.70$? Yes
				$\bar{x}$ quotient = >5 and <15? N/A

Conc. of the active (%)	10^{-X}	*Vc* 1	*Vc* 2	*Na* = $\bar{x}$	lg*Na*	lg*R* N_0 = 7.56		Contact time	Result
50%	-1	<14	<14	1.40E+02	<2.15		>5.41	30 Seconds	**Pass**
	-2	-	-						

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