Test identification Reference: **J002104**

BS EN 1040:2005

Quantitative suspension test for the evaluation of basic bactericidal activity of chemical disinfectants and antiseptic – Phase 1

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PO/Quote number: Q003269/3
Report Date: 19/08/2020
Issue Number: 1

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Scope

This standard is designed to establish whether a chemical disinfectant or antiseptic does or does not have a basic level of bactericidal activity. The acceptability of a product for a defined purpose cannot be determined from this standard.

Outline of Test Method (Obligatory Test Conditions)

A sample of the test product is diluted distilled water. A test suspension of bacteria is then added to the concentrations of product and maintained at 20°C for the contact time. At the end of the contact time an aliquot is taken and the bacterial / bacteriostatic activity is immediately neutralised or suppressed by the validated method. The numbers of surviving bacteria in each sample are determined and the reduction is calculated.
The test is performed using Pseudomonas aeruginosa and Staphylococcus aureus as standard organisms.

Acceptance Criteria

The product when tested as above shall demonstrate at least a 5 $\log_{10}$ reduction in viable bacterial counts. The test is deemed valid where all control requirements are met.

Test information		Deviation
Name of Product	Quat Guard	
Batch Number & Expiry Date	N/S	
Date of Delivery	09/07/2020	
Period of Analysis	23/07/2020-25/07/2020	
Manufacturer / Supplier	Sanglier	
Storage Conditions	Ambient	
Appearance of the Product	Clear liquid	
Neutraliser	N6	
Neutralisation Method	Dilution	
Product Diluent	Distilled water	
Test Concentrations	Neat (80%), Mid-range (50%), Non active (0.1%)	
Test Temperature	20°C ±1°C	
Temperature of Incubation	Bacteria – 37°C ±1°C for 24hr to 48hrs	
Identification of the Bacterial Strains:	*Pseudomonas aeruginosa* NCTC 13359 (ATCC 15442) *Staphylococcus aureus* NCTC 10788 (ATCC 6538)	
Contact Times	5 minutes ± 10s	
Stability and Appearance During Test	No Change Observed(Homogenous)	

Deviations from Standard Method

There were no deviations from the standard method

Test Result Summary

The test product received has achieved >5 log reduction when tested under the condition stipulated in this report.

See page 2 for acceptance criteria and raw data tables below for complete test results.

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Validation and Controls

Validation suspension (Nv_0)				Experimental condition controls (A)				Neutraliser or Filtration Control (B)				Method Validation (C)			
			$\bar{x}$ =				$\bar{x}$ =				$\bar{x}$ =				$\bar{x}$ =
Vc1	Pa.	86		Vc1	Pa.	80		Vc1	Pa.	112		Vc1	Pa.	89	
	Sa.	104	Pa. 74		Sa.	99	Pa. 70		Sa.	98	Ps. 119		Sa.	111	Pa. 90
Vc2	Pa.	61	Sa. 107	Vc2	Pa.	59	Sa. 99	Vc2	Pa.	126	Sa. 101	Vc2	Pa.	90	Sa. 112
	Sa.	109			Sa.	98			Sa.	103			Sa.	112	
$30 \leq \bar{x}$ of $Nv_0 \leq 160$?				$\bar{x}$ of A ≥ 0.5 Nv0				$\bar{x}$ of B ≥ 0.5 Nv0				$\bar{x}$ of C ≥ 0.5 Nv0			
Yes				Yes				Yes				Yes			

Test Results

MSL SOLUTION PROVIDERS		Test concentration		
Test Organism	**Suspension N**	**Neat**	**50**	**0.1**
Pseudomonas	10^6 238 ; 206	10^0 0 ; 0	10^0 0 ; 0	10^4 327 ; >330
aeruginosa	10^7 60 ; 41	Na ; < 2.15	Na ; < 2.15	Na ; > 7.52
ATCC 15442	N_0 : 7.39 Valid	R > 5	R > 5	R < -0.12
Staphylococcus	10^6 >330 ; >330	10^0 0 ; 0	10^0 0 ; 0	10^4 >330 ; >330
aureus	10^7 50 ; 49	Na ; < 2.15	Na ; < 2.15	Na ; > 7.52
ATCC 6538	N_0 : 7.69 Valid	R > 5	R > 5	R < 0.18

KEY

N_0	Log_{10} number of cfu/ml at the beginning of the contact time = $N/10$
Nv_0	is the number of cfu/ml in the validation test suspension at the beginning of the contact time
A	is the verification of experimental conditions control
B	is the neutraliser toxicity control
C	is method validation
Vc	is the colony forming units counted per 1ml of sample
$\bar{x}$	is the average of Vc_1 & Vc_2
$\bar{x}$ wm	is the weighted mean of *N*
Na	Log_{10} number of surviving cfu/ml in the test mixture
R	($lg\ N_0 - lg\ Na = lg\ R$) is the calculation for reduction in viability
PASS	= lg *R* greater than or equal to 5
FAIL	= lg *R* less than 5
>	Greater than
≥	Equal to or greater than
<	Less than
≤	Equal to or less than

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