Abbott Analytical

Consulting Scientists to the Disinfectant Industry

Certificate of Analysis

Sample(s):	One sample of Remuvit		
Received from:	Klenitise Ltd. Unit 59, Vale Business Park, Llandow, Cowbridge, CF71 7PF		
Date received:	23 November 2009	**Date tested:**	27 November 2009
Certificate no:	09L.148B-KR.ENZ	**Certificate date:**	2 December 2009
Sample ref:	9L/148	**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)		

Product stored at:	Room temperature
Active substance:	Not declared
Test conditions:	'Dirty'
Interfering substance:	3.0g/l bovine albumin
Product test concentration:	10.0% v/v
Product diluent used during test:	Sterile hard water 300mg/l $CaCO_3$
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:	*Pseudomonas aeruginosa* ATCC 15442 *Escherichia coli* NCTC 10418 *Staphylococcus aureus* NCTC 10788 *Enterococcus hirae* ATCC 8043

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Test results:

Test Organism	*Pseudomonas aeruginosa*		*Escherichia coli*		*Staphylococcus aureus*		*Enterococcus hirae*	
10^{-1} Validation Suspension	Vc1 696	Vc2 744	Vc1 358	Vc2 464	Vc1 512	Vc2 464	Vc1 154	Vc2 238
	Nv0 7.20	x10 ^{3}	Nv0 4.11	x10 ^{3}	Nv0 4.88	x10 ^{3}	Nv0 1.96	x10 ^{3}
10^{0} Experimental Control	Vc1 538	Vc2 522	Vc1 292	Vc2 370	Vc1 570	Vc2 492	Vc1 106	Vc2 150
	A 5.30	x10 ^{2}	A 3.31	x10 ^{2}	A 5.31	x10 ^{2}	A 1.28	x10 ^{2}
10^{0} Neutraliser Control	Vc1 492	Vc2 570	Vc1 340	Vc2 256	Vc1 438	Vc2 476	Vc1 124	Vc2 178
	B 5.31	x10 ^{2}	B 2.98	x10 ^{2}	B 4.57	x10 ^{2}	B 1.51	x10 ^{2}
10^{0} Method Validation	Vc1 530	Vc2 612	Vc1 308	Vc2 366	Vc1 422	Vc2 496	Vc1 140	Vc2 106
	C 5.71	x10 ^{2}	C 3.37	x10 ^{2}	C 4.59	x10 ^{2}	C 1.23	x10 ^{2}
10^{-7}	Vc1 1590	Vc2 2440	Vc1 2620	Vc2 1440	Vc1 3520	Vc2 4140	Vc1 1360	Vc2 1580
10^{-8} Test Suspension	Vc1 252	Vc2 340	Vc1 176	Vc2 208	Vc1 396	Vc2 284	Vc1 248	Vc2 200
	N 2.49	x10 ^{10}	N 1.98	x10 ^{10}	N 3.62	x10 ^{10}	N 1.86	x10 ^{10}
10^{-2} Results	Vc 12		Vc 0		Vc 3		Vc 0	
	Na 1.20	x10 ^{3}	Na < 1.00	x10 ^{2}	Na 3.00	x10 ^{2}	Na < 1.00	x10 ^{2}
	R 2.07	x10 ^{7}	R > 1.98	x10 ^{8}	R 1.21	x10 ^{8}	R > 1.86	x10 ^{8}
Log_{10} Reduction	7.32		> 8.30		8.08		> 8.27	

Vc = Viable count
Nv = cfu/ml in the validation suspension
N = cfu/ml in the test suspension
Na = cfu/ml in the test mixture
R = Reduction in viability

Requirements & Conclusion:

To pass EN 1276 a log_{10} reduction of at least 5 is required.

This batch of Remuvit, when diluted to 10.0% v/v, passes the requirements of EN 1276 for bactericidal activity in 5 minutes at 20°C under 'dirty' conditions against the reference organisms detailed.

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