



Abbott Analytical

Consulting Scientists to the Disinfectant Industry



15 February 2010

Cleanitise Ltd
14 Cherry Grove
Sketty
Swansea
SA2 8AS

For attention of Chris Luxton

Dear Chris,

Further to our telephone conversation last week I write to confirm that the product Remuvit shows good bactericidal activity after 30 minutes contact as shown by the results of EN 1276 testing.

Residual activity on for example hospital window ledges or nursing home kitchen tables would depend entirely on the amount of activity in these areas. For example cleaning of window ledges tends to be a daily chore and depending, on the location may or may not have contamination due to human activity interfering with the residual active component of the product. In those areas where human intervention is limited it is possible that Remuvit will remain active for some time following application. In ledges, for example close to beds, it is likely that human contamination will be considerably higher and Remuvit may only remain active for an hour or so.

In the kitchen situation the residual activity of Remuvit will be reduced by the organic matter from the food being prepared on the surface and it is highly recommended that surfaces be cleaned after each period of use and certainly between say meat preparation and vegetable preparation. There is no evidence to suggest that there is any residual left behind which will cause 'taint' problems.

The sample of Remuvit was tested at 5% dilution and use of the concentrate undiluted will not only give a better kill of micro-organisms due to the extra active component present but will also act over a longer time period as more active will remain on the surface after drying.

Yours sincerely,

D C Watson

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Certificate of Analysis

Sample(s) : One sample of Remuvit

Received from: Klenitise Ltd. 14 Cherry Grove, Sketty, Swansea, SA2 8AS

Date received: 11 February 2010 **Date tested:** 12 February 2010

Certificate no: 10B.067B-KR.CLE **Certificate date:** 15 February 2010

Sample ref: 10B/067 **Page:** 2 of 4

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'

Product test concentration: 20% v/v

Product diluent used during test: Sterile hard water 300mg/l CaCO₃

Contact times: 30 seconds & 1 minute

Test temperature: 20°C ± 0.5°C

Interfering substance: 3g/l bovine albumin

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>	ATCC	15442
<i>Escherichia coli</i>	NCTC	10418
<i>Staphylococcus aureus</i>	NCTC	10788
<i>Enterococcus hirae</i>	NCIMB	8191

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Test results: (30 seconds)

Test Organism	<i>Pseudomonas aeruginosa</i>		<i>Escherichia coli</i>		<i>Staphylococcus aureus</i>		<i>Enterococcus hirae</i>	
Validation Suspension	10 ⁻¹	Vc1 214 Vc2 236	Vc1 414 Vc2 508	Vc1 566 Vc2 614	Vc1 614 Vc2 538			
		Nv0 2.25 x10 ³	Nv0 4.61 x10 ³	Nv0 5.90 x10 ³	Nv0 5.76 x10 ³			
Experimental Control	10 ⁰	Vc1 158 Vc2 176	Vc1 376 Vc2 342	Vc1 482 Vc2 504	Vc1 502 Vc2 496			
		A 1.67 x10 ²	A 3.59 x10 ²	A 4.93 x10 ²	A 4.99 x10 ²			
Neutraliser Control	10 ⁰	Vc1 182 Vc2 134	Vc1 336 Vc2 314	Vc1 476 Vc2 438	Vc1 488 Vc2 534			
		B 1.58 x10 ²	B 3.25 x10 ²	B 4.57 x10 ²	B 5.11 x10 ²			
Method Validation	10 ⁰	Vc1 124 Vc2 136	Vc1 328 Vc2 350	Vc1 422 Vc2 488	Vc1 472 Vc2 552			
		C 1.30 x10 ²	C 3.39 x10 ²	C 4.55 x10 ²	C 5.12 x10 ²			
Test Suspension	10 ⁻⁶	Vc1 116 Vc2 152	Vc1 346 Vc2 412	Vc1 488 Vc2 536	Vc1 544 Vc2 572			
	10 ⁻⁷	Vc1 17 Vc2 21	Vc1 46 Vc2 50	Vc1 62 Vc2 58	Vc1 60 Vc2 43			
		N 1.62 x10 ⁸	N 4.30 x10 ⁸	N 5.56 x10 ⁸	N 5.37 x10 ⁸			
Results	10 ⁻²	Vc1 0 Vc2 0	Vc1 2 Vc2 1	Vc1 5 Vc2 8	Vc1 8 Vc2 11			
		Na <1.00 x10 ²	Na 1.50 x10 ²	Na 6.50 x10 ²	Na 9.50 x10 ²			
		R >1.62 x10 ⁶	R 2.86 x10 ⁶	R 8.55 x10 ⁵	R 5.65 x10 ⁵			
Log Reduction	> 6.21		6.46		5.93		5.75	

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

Conclusion:

This batch of Remuvit, when diluted to 20% v/v, passes the requirements of EN 1276 for bactericidal activity in 30 seconds at 20°C under 'dirty' conditions against the reference organisms detailed.

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Test results: (1 minute)

Test Organism	<i>Pseudomonas aeruginosa</i>		<i>Escherichia coli</i>		<i>Staphylococcus aureus</i>		<i>Enterococcus hirae</i>	
Validation Suspension	10 ⁻¹	Vc1 214 Vc2 236	Vc1 414 Vc2 508	Vc1 566 Vc2 614	Vc1 614 Vc2 538			
		Nv0 2.25 x10 ³	Nv0 4.61 x10 ³	Nv0 5.90 x10 ³	Nv0 5.76 x10 ³			
Experimental Control	10 ⁰	Vc1 158 Vc2 176	Vc1 376 Vc2 342	Vc1 482 Vc2 504	Vc1 502 Vc2 496			
		A 1.67 x10 ²	A 3.59 x10 ²	A 4.93 x10 ²	A 4.99 x10 ²			
Neutraliser Control	10 ⁰	Vc1 182 Vc2 134	Vc1 336 Vc2 314	Vc1 476 Vc2 438	Vc1 488 Vc2 534			
		B 1.58 x10 ²	B 3.25 x10 ²	B 4.57 x10 ²	B 5.11 x10 ²			
Method Validation	10 ⁰	Vc1 124 Vc2 136	Vc1 328 Vc2 350	Vc1 422 Vc2 488	Vc1 472 Vc2 552			
		C 1.30 x10 ²	C 3.39 x10 ²	C 4.55 x10 ²	C 5.12 x10 ²			
Test Suspension	10 ⁻⁶	Vc1 116 Vc2 152	Vc1 346 Vc2 412	Vc1 488 Vc2 536	Vc1 544 Vc2 572			
	10 ⁻⁷	Vc1 17 Vc2 21	Vc1 46 Vc2 50	Vc1 62 Vc2 58	Vc1 60 Vc2 43			
		N 1.62 x10 ⁸	N 4.30 x10 ⁸	N 5.56 x10 ⁸	N 5.37 x10 ⁸			
Results	10 ⁻²	Vc1 0 Vc2 0	Vc1 0 Vc2 0	Vc1 0 Vc2 0	Vc1 0 Vc2 0	Vc1 0 Vc2 0		
		Na <1.00 x10 ²	Na <1.00 x10 ²	Na <1.00 x10 ²	Na <1.00 x10 ²	Na <1.00 x10 ²		
		R >1.62 x10 ⁶	R >4.30 x10 ⁶	R >5.56 x10 ⁶	R >5.37 x10 ⁶			
Log Reduction		> 6.21	> 6.63	> 6.75	> 6.73			

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

Conclusion:

This batch of Remuvit, when diluted to 20% v/v, passes the requirements of EN 1276 for bactericidal activity in 1 minute at 20°C under 'dirty' conditions against the reference organisms detailed.

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