



Abbott Analytical



Consulting Scientists to the Disinfectant Industry

Certificate of Analysis

Sample(s) : One sample of Remuvit Concentrate

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

Date received: 19 August 2010 **Date tested:** 15 September 2010

Certificate no: 10H.090Lp-KR.CLE **Certificate date:** 17 September 2010

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Analysis required: EN 13623, Chemical disinfectants and antiseptics - Quantitative suspension test for the evaluation of bactericidal activity against *Legionella pneumophila* of chemical disinfectants for aqueous systems - Test method and requirements (phase 2, step 1)

Product stored at: Room temperature

Active substance: Not declared

Test conditions: N/A

Interfering substance: 0.0005% yeast extract

Product test concentration: 20% v/v

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

Contact time: 60 minutes

Test temperature: 30°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: *Legionella pneumophila* NCTC 12821

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Test results:

Test Organism	<i>Legionella pneumophila</i>	
Validation Suspension (N_v)	Vc1 308	Vc2 244
	$\bar{x} = 276$	
Experimental Control (A)	Vc1 272	Vc2 206
	$\bar{x} = 239 \geq 0.5N_{v_0}$	
Neutraliser Control (B)	Vc1 234	Vc2 252
	$\bar{x} = 243 \geq 0.5N_{v_0}$	
Method Validation (C)	Vc1 218	Vc2 242
	$\bar{x} = 230 \geq 0.5N_{v_0}$	
Test Suspension (N)	10 ⁻⁶ Vc1 258	Vc2 216
	10 ⁻⁷ Vc1 28	Vc2 32
(N_o = 0.1N)	$\bar{w} = 2.43 \times 10^8$	
	lg N = 8.39	
	lg N _o = 7.39	
Results (Na)	10 ⁰ Vc1 <14	Vc2 <14
	10 \bar{x} < 140	
	lg Na < 2.15	
(R)	lg R > 5.24	
Pass: lg R ≥ 4	PASS	

Vc = plate count per ml
 \bar{x} = average of Vc1 and Vc2
 \bar{w} = weighted mean of \bar{x}
R = reduction (lg R = lg N_o - lg Na)

Conclusion:

This batch of Remuvit Concentrate, when diluted to 20% v/v, passes the requirements of EN 13623 for bactericidal activity against *Legionella pneumophila* in 60 minutes at 30°C.

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