



Abbott Analytical

Consulting Scientists to the Disinfectant Industry



Certificate of Analysis

Sample(s): One sample of GreenGold Concentrate

Received from: Busy Cleaning Ltd, Charter Court, Phoenix Way, Swansea, SA7 9FS

Date received: 16 May 2011 **Date tested:** 18 May 2011

Certificate no: 11E.040S-KR.CLE **Certificate date:** 20 May 2011

Sample ref: 11E/040 **Page:** 1 of 2

Analysis required: EN 13704, Chemical disinfectants - Quantitative suspension test for the evaluation of sporicidal activity of chemical disinfectants used in human medicine, veterinary field, and 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 +
3.0ml/l sheep erythrocytes

Product test concentration: 20% v/v

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

Contact time: 60 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: 30°C ± 1°C

Identification of bacterial strain(s) used: *Bacillus subtilis* ATCC 51189
(was *globigii*)
Bacillus cereus ATCC 12826

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Test results:

Test Organism	<i>Bacillus globigii</i>		<i>Bacillus cereus</i>	
Validation Suspension (N _v)	Vc1 258	Vc2 300	Vc1 236	Vc2 268
	$\bar{x} = 279$		$\bar{x} = 252$	
Experimental Control (A)	Vc1 272	Vc2 260	Vc1 222	Vc2 204
	$\bar{x} = 266 \geq 0.5N_{v0}$		$\bar{x} = 213 \geq 0.5N_{v0}$	
Neutraliser Control (B)	Vc1 284	Vc2 246	Vc1 216	Vc2 235
	$\bar{x} = 265 \geq 0.5N_{v0}$		$\bar{x} = 226 \geq 0.5N_{v0}$	
Method Validation (C)	Vc1 270	Vc2 254	Vc1 206	Vc2 228
	$\bar{x} = 262 \geq 0.5N_{v0}$		$\bar{x} = 217 \geq 0.5N_{v0}$	
Test Suspension	10 ⁻⁴ Vc1 208	Vc2 234	Vc1 186	Vc2 244
	10 ⁻⁵ Vc1 35	Vc2 43	Vc1 24	Vc2 27
(N)	$\bar{w} = 2.36 \times 10^6$		$\bar{w} = 2.19 \times 10^6$	
(N _o = 0.1N)	lg N = 6.37		lg N = 6.34	
	lg N _o = 5.37		lg N _o = 5.34	
Results 10 ⁰	Vc1 <14	Vc2 <14	Vc1 <14	Vc2 <14
	10 \bar{x} < 140		10 \bar{x} < 140	
(Na)	lg Na < 2.15		lg Na < 2.15	
(R)	lg R > 3.23		lg R > 3.19	
Pass: lg R \geq 3	PASS		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 GreenGold Concentrate, when diluted to 20% v/v, passes the requirements of EN 13704 for sporicidal activity in 60 minutes at 20°C under dirty conditions against the reference organisms detailed.

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