

BACTERICIDAL EFFICACY TESTS (EN 1276)

(PHASE 2, STEP 1)

EBIOX SURFACE DISINFECTANT

EBIOX LTD

HOSPITAL INFECTION RESEARCH LABORATORY

CITY HOSPITAL

DUDLEY ROAD

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AUGUST 2004

MANUFACTURER	Ebiox Ltd 1 Whitehall Whitehall Road LEEDS LS1 4HR
TEST PRODUCT	EBIOX SURFACE DISINFECTANT
LOT NUMBER	Not stated
EXPIRY DATE	Not stated Sample received July 2004
TEST ORGANISMS	
<i>Staphylococcus aureus</i>	NCTC 10788
<i>Pseudomonas aeruginosa</i>	NCTC 6749
<i>Escherichia coli</i>	NCTC 10418
<i>Enterococcus hirae</i>	NCTC 12367

TEST METHOD AND VALIDATION

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 (Phase 2, step 1).

REQUIREMENT

The test product when tested in accordance with the test methodology described under simulated clean and dirty conditions shall demonstrate at least a 5 log₁₀ reduction.

Product diluent used during the test	Not applicable
Product test concentration	Undiluted (i.e. 80% in the test)
Appearance product dilution	Pale blue solution

Contact time	1, 2 and 5 minutes
Test temperature	20°C
Interfering substance	Bovine albumin 0.03% clean conditions 0.3% dirty conditions
Inhibition method	Dilution/neutralization
Neutralizer	Tween 80 40g/l, sodium lauryl sulphate 10g/l, lecithin 4g/l, sodium thiosulphate 5g/l, saponin 30g/litre. Tests were performed to establish the suitability of this neutralizer in neutralizing the activity of the disinfectant without being inhibitory to the test organisms.

SUMMARY OF TEST METHODS

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 (Phase 2, step 1).

Copies available from BSI, 389 Chiswick High Road, London W4 4AL.

The test method involves mixing 1 ml of the test bacteria with 1 ml of soil (0.3 or 3% albumin and then adding 8 ml of disinfectant. After the required contact time, 1 ml is removed to 9 ml of recovery/neutralizer, which is then plated to detect surviving test bacteria.

RESULTS

BACTERICIDAL ACTIVITY OF EBIOX SURFACE DISINFECTANT

USING PHASE 2 STEP 1 SUSPENSION TEST EN 1276

Log₁₀ counts/reductions achieved in 1, 2 and 5 minutes

(Tests carried out in duplicate)

Log ₁₀ reduction							
Test organism	Log ₁₀ initial count (challenge)	Clean conditions (0.03% albumin)			Dirty conditions (0.3% albumin)		
		1 min	2 mins	5 mins	1 min	2 mins	5 mins
<i>Ps. aeruginosa</i>	7.76	>6.76	>6.76	>6.76	>5.66	>6.76	>6.76
<i>Esch.coli</i>	7.63	>6.76	>6.76	>6.76	>6.76	>6.76	>6.76
<i>Ent. hirae</i>	7.08	>6.08	>6.08	>6.08	>6.08	>6.08	>6.08
<i>Staph. aureus</i>	7.76	>6.76	>6.76	>6.76	>6.76	>6.76	>6.76

* A contact time of 5 mins is stated in EN 1276. However 1, 2 and 5 mins contact times were commissioned by Ebiox as more relevant for hard surface disinfectant for use in health care premises. The tests carried out were therefore, more stringent.

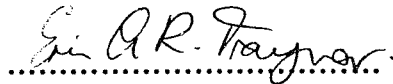
CONCLUSION

When tested in accordance with EN 1276 (1997), undiluted Ebiox Surface Disinfectant solution possesses bactericidal activity at 20°C. A >5 Log₁₀ (99.999%) reduction was achieved with all test organisms i.e. *Ps. aeruginosa*, *Staph. aureus*, *Esch. coli*, *Ent. hirae* in 1 min, 2 mins and 5 mins under clean (0.03% albumin) and dirty (0.3% albumin) conditions. To satisfy the requirements for the test, at least a 5 Log₁₀ reduction in specified test organisms is required within 5 mins when the disinfectant is tested at its intended use dilution(s). Ebiox Surface Disinfectant, therefore, satisfies the requirements of the test.

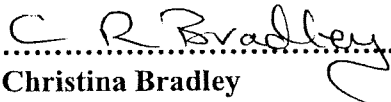
Performance under light (clean) and moderate to heavy (dirty) soiling was assessed. The presence of soil does not appear to affect the performance of the product.



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