TITLE

BACTERICIDAL ACTIVITY OF ENDUROCIDE UNDER DIRTY CONDITIONS

CONTACT AT TESTING LABORATORY

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IDENTIFICATION OF SAMPLE

Name of sample:	ENDUROCIDE
Laboratory Number:	02/10073
Batch Number:	OTL/SS 01/07.03
Appearance:	Clear liquid
Storage conditions:	Room Temperature
Date of receipt:	10/07/03
Date(s) of test(s):	30/07/03 – 06/08/03

TEST METHOD

pr EN 13713:1999 Chemical disinfectants and antiseptics – Surface disinfectants used in human medicine, bactericidal activity – Test method and requirements.

EXPERIMENTAL CONDITIONS

Procedure:	Membrane filtration method used as a suitable neutralizer was not Found. (See report number BIO/04073)
Test dilutions:	As received i.e. undiluted It is not possible to determine the bactericidal activity of an undiluted product as some dilution is always produced by adding the inoculum and interfering substance. Ready to use products are therefore actually tested at a concentration of 80%.
DEVIATION:	The sample was only tested as received three dilutions were not tested as specified in the standard
Test temperature:	20°C +/- 1°C
Test conditions:	Dirty:- conditions representative of surfaces which are known to or may contain, organic and/or inorganic materials. (final concentration of yeast extract 5g/l and bovine albumin 5g/l)
Contact time:	5 minutes
Temperature of incubation:	37°C +/- 1°C
Test organisms:	*Enterococcus hirae* NCIMB 8191 *Escherichia coli* NCTC 10418 *Pseudomonas aeruginosa* NCIMB 10421 *Staphylococcus aureus* NCTC 10788

REQUIREMENTS

The product when diluted in hard water and tested in accordance with clause 5* prEN 13713, under the required test conditions (20°C, 5 min, four referenced strains), shall demonstrate at least a 10^5 log reduction in viable counts.
*The validation test (see Annex A prEN 13713) shall also be carried out at the same time as the test procedure using only the highest product concentration and the same conditions as used in the test.
A product which passes the test, is characterized as a chemical possessing bactericidal activity under conditions representative of practical use. Further laboratory tests using surfaces simulating practical conditions are required to qualify the product as a surface disinfectant.

RESULTS VALIDATION TESTS

TABLE 2 Verification of the methodology and validation of membrane filtration method for ENDUROCIDE under dirty conditions

	Viable count (cfu/ml)				
Organism	**Bacterial test suspension (N)**	**Bacterial suspension (N_v)**	**Validation of experimental conditions (A)**	**Filtration control (B)**	**Filtration test control (C)**
Enterococcus hirae	2.8×10^8	1.2×10^3	9.8×10^1	9.3×10^1	7.7×10^1
Escherichia coli	2.2×10^8	8.8×10^3	6.8×10^1	9.2×10^1	5.0×10^1
Pseudomonas aeruginosa	2.6×10^8	1.5×10^3	7.6×10^1	8.0×10^1	7.6×10^1
Staphylococcus aureus	4.3×10^8	9.6×10^3	6.8×10^1	7.4×10^1	7.2×10^1

KEY:

For the strain tested:
N is between 1.5×10^8 colony forming units per millilitre (cfu/ml) and 5×10^8 cfu/ml
N_v is between 6×10^2 cfu/ml and 3×10^3 cfu/ml
A is equal to or greater than $0.05 \times N_v$
B is equal to or greater than $0.05 \times N_v$
C is equal to or greater than $0.5 \times B$

NOTE: The test method is validated for the referenced strains

RESULTS TEST METHOD

TABLE 2 Reduction in viability of *Enterococcus hirae* by ENDUROCIDE under dirty conditions at 20°C with a 5 minute contact time

Dilution	Viable counts for the test mixture	Viable counts (cfu/ml) for the test mixture (N_a)	Reduction in viability ($N \times 10^{-1} \div N_a$)	Status
Undiluted	0, 0	$<1.5 \times 10^2$	$>1.9 \times 10^5$	PASS

TABLE 3 Reduction in viability of *Escherichia coli* by ENDUROCIDE under dirty conditions at 20°C with a 5 minute contact time

Dilution	Viable counts for the test mixture	Viable counts (cfu/ml) for the test mixture (N_a)	Reduction in viability ($N \times 10^{-1} \div N_a$)	Status
Undiluted	0, 1	$<1.5 \times 10^2$	$>1.5 \times 10^5$	PASS

KEY:

> = Greater than.
< = Less than
PASS = $\geq 10^5$ reduction in viability
FAIL = $< 10^5$ reduction in viability

RESULTS TEST METHOD

TABLE 4 Reduction in viability of *Pseudomonas aeruginosa* by ENDUROCIDE under dirty conditions at 20°C with a 5 minute contact time

Dilution	Viable counts for the test mixture	Viable counts (cfu/ml) for the test mixture (N_a)	Reduction in viability ($N \times 10^{-1} \div N_a$)	Status
Undiluted	0, 0	$<1.5 \times 10^2$	$>1.7 \times 10^5$	PASS

TABLE 5 Reduction in viability of *Staphylococcus aureus* by ENDUROCIDE under dirty conditions at 20°C with a 5 minute contact time

Dilution	Viable counts for the test mixture	Viable counts (cfu/ml) for the test mixture (N_a)	Reduction in viability ($N \times 10^{-1} \div N_a$)	Status
Undiluted	0, 0	$<1.5 \times 10^2$	$>2.9 \times 10^5$	PASS

KEY:

> = Greater than.
< = Less than
PASS = $\geq 10^5$ reduction in viability
FAIL = $< 10^5$ reduction in viability

CONCLUSION

According to prEN 13713:1999, the sample of ENDUROCIDE batch number OTL/SS 01/07.03, when used undiluted possesses bactericidal activity in five minutes at 20°C under dirty conditions for the referenced strains *Enterococcus hirae, Escherichia coli, Pseudomonas aeruginosa* and *Staphylococcus aureus.*

The product when used undiluted is suggested as being suitable for practical situations of use.

SIGNATURE..... M. F inlay .....
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