Medisanitize™

Antimicrobial Test Summary
Universal Wipes

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Manufactured by:
EXTERGEO INDUSTRIES LTD

MADE IN BRITAIN

Universal Wipes

- ≥ 99.9999% kill rate against bacteria including **M**RSA and Mycobacteria
- Kills at least 99.999% of Clostridium difficile spores
- 99.999% kill rate against Legionella pneumophila
- Yeasticidal with 99.9999% kill rate
- Fungicidal with 99.999% kill rate

Microbial efficacy:

Bactericidal

EN 1276

Specifies a suspension test to measure bactericidal activity of chemical disinfectants intended for use in food, industrial, domestic, and institutional areas.

Status: **Pass** Contact time: **5 minutes**

Effective against	**Log reduction**
Pseudomonas aeruginosa	>6.77
Staphylococcus aureus	>6.56
Escherichia coli	>6.66
Enterococcus hirae	>6.70
Salmonella Typhimurium	>6.80
Listeria monocytogenes	>6.72
Klebsiella pneumoniae	>6.44

EN 1656

Specifies a suspension test to measure bactericidal activity of chemical disinfectants used in the Veterinary area.

Status: **Pass** Contact time: **5 minutes**

Effective against	**Log reduction**
Streptococcus equi	>6.59

EN 13623

Specifies a suspension test to measure bactericidal activity of chemical disinfectants.

Status: **Pass** Contact time: **60 minutes**

Effective against	**Log reduction**
Legionella pneumophila	5.09

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EN 13697

Specifies a carrier test to measure bactericidal activity of chemical disinfectants intended for use without mechanical action in the medical area, food, industrial, domestic, and institutional areas.

Status: **Pass** Contact time: **30 seconds**

Effective against	Log reduction
Methicillin-resistant Staphylococcus aureus	>4.00
Escherichia coli	>4.00

EN 13727

Specifies a suspension test to measure bactericidal activity of chemical disinfectants intended for use in the medical area.

Status: **Pass** Contact time: **5 minutes**

Effective against	Log reduction
Methicillin-resistant Staphylococcus aureus	>6.27

Sporocidal

EN 13704

Specifies a suspension test for the evaluation of sporicidal activity of chemical disinfectants used in food, industrial, domestic, and institutional areas.

Status: **Pass** Contact time: **5 minutes**

Effective against	Log reduction
Clostridium difficile	>5.34

Mycobactericidal

EN 14348

Specifies a suspension test to test the efficacy of chemical disinfectants against mycobacteria intended for use in the medical area.

Status: **Pass** Contact time: **60 minutes**

Effective against	Log reduction
Mycobacterium avium	>6.56
Mycobacterium terrae	>6.49

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Fungicidal and Yeasticidal

EN 1650
Specifies a carrier test to measure fungicidal and yeasticidal activitiy of chemical disinfectants intended for use in food, industrial, domestic, and institutional areas.
Status: **Pass** with a contact time of **5 minutes**

Effective against	**Log reduction**
Candida albicans	>6.61
Aspergillus niger	>5.65

EN 1275
Specifies a suspension test to measure basic fungicidal or basic yeasticidal activity of chemical disinfectants.
Status: **Pass** with a contact time of 1**5 minutes**

Effective against	**Log reduction**
Aspergillus niger	5.20
Candida albicans	5.28

Virucidal

EN 14476
Specifies a carrier test to measure antiviral activity of chemical disinfectants intended for use in food, industrial, domestic, and institutional areas.
Status: **Pass** with a contact time of 5 minutes

Effective against	**Log reduction**
Feline calicivirus	>4.00

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Certificate of Analysis

Sample(s):	One sample of Sterizar		
Received from:	Creative Supply Solutions Ltd. Malvern Mill, South Wing, Earl Mill, Dowry Street, Oldham, OL8 2PF		
Date received:	31 March 2010	**Date tested:**	9 April 2010
Certficate no:	10C.151Se.CSS	**Certficate date:**	14 April 2010
Sample ref:	10C/151	**Page:**	1 of 2
Analysis required:	BS/EN 1656 quantitative suspension test for the evaluation of bactericidal activity of chemical disinfectants used in the Veterinary area		

Product stored at:	Room temperature	
Active substance:	Not declared	
Test conditions:		
Product test concentrations:	Neat as received (80% in test suspension)	
Contact time:	5 mins	
Test temperature:	20°C ± 0.5°C	
Interfering substance:	3.0g/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 strains used:	Streptococcus equi	NCTC 7912

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Test results:

Test Organism	*Streptococcus equi*	
10^{-1} Validation Suspension	Vc1 457	Vc2 432
	Nv0 4.45 x10^{3}	
10^{0} Experimental Control	Vc1 328	Vc2 335
	A 3.32 x10^{2}	
10^{0} Neutraliser Control	Vc1 346	Vc2 362
	B 3.54 x10^{2}	
10^{0} Method Validation	Vc1 304	Vc2 337
	C 3.21 x10^{2}	
10^{-6}	Vc1 296	Vc2 351
10^{-7} Test Suspension	Vc1 51	Vc2 39
	N 3.87 x10^{8}	
10^{-2} Results	Vc1 0	Vc2 0
	Na <1.00 x10^{2} R >3.87 x10^{6}	
Log Reduction	>6.59	

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 Sterizar, when used neat as received, passes the requirements of EN 1656 for bactericidal activity in 5 minutes at 20°C against the reference organisms detailed.

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Certificate of Analysis

Sample(s):	One sample of Sterizar		
Received from:	Creative Supply Solutions Ltd. Malvern Mill, South Wing, Earl Mill, Dowry Street, Oldham, OL8 2PF		
Date received:	19 January 2010	**Date tested:**	10 February 2010
Certficate no:	10A.053L.CSS	**Certficate date:**	11 February 2010
Sample ref:	10A/053	**Page:**	1 of 2
Analysis required:	BS/EN 13623 quantitative suspension test for the evaluation of activity against Legionella of chemical disinfectants		

Product stored at:	Room temperature
Active substance:	Not declared
Test conditions:	
Product test concentration:	Neat as received
Product diluent used during test:	N/A
Contact time:	60 mins
Test temperature:	20°C ± 0.5°C
Interfering substance:	0.05% yeast cell suspension + 0.05% yeast extract
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 used:	*Legionella pneumophila* NCTC 12821

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Test results:

Test Organism	*Legionella pneumophila*	
10^{-1} Validation Suspension	Vc1 922	Vc2 872
	Nv0 8.97	$x10^3$
10^{0} Experimental Control	Vc1 796	Vc2 838
	A 8.17	$x10^2$
10^{0} Neutraliser Control	Vc1 804	Vc2 746
	B 7.75	$x10^2$
10^{0} Method Validation	Vc1 792	Vc2 726
	C 7.59	$x10^2$
10^{-6}	Vc1 864	Vc2 528
10^{-7} Test Suspension	Vc1 74	Vc2 92
	N 7.63	$x10^8$
10^{-2} Results	Vc1 71	Vc2 53
	Na 6.20	$x10^3$
	R 1.23	$x10^5$
Log Reduction	5.09	

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:

According to EN 13623 this batch of Sterizar, when used neat, possesses satisfactory activity against Legionella in 60 minutes at 20°C.

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Certificate of Analysis

Sample(s):	One sample of Sterizar		
Received from:	Creative Supply Solutions Ltd. Malvern Mill, South Wing, Earl Mill, Dowry Street, Oldham, OL8 2PF		
Date received:	22 June 2011	**Date tested:**	27 June 2011
Certificate no:	11F.078SEcMr.CSS	**Certificate date:**	29 June 2011
Sample ref:	11F/078	**Page:**	1 of 2
Analysis required:	EN 13697, Chemical disinfectants and antiseptics - Quantitative non-porous surface test for the evaluation of bactericidal and/or fungicidal activity of chemical disinfectants used in food, industrial, domestic and institutional areas - Test method and requirements without mechanical action (phase 2, step 2)		

Product stored at:	Room temperature
Active substance:	Not declared
Test conditions:	Dirty
Interfering substance:	3.0g/l bovine albumin
Product test concentration:	Neat as received
Product diluent used during test:	N/A
Contact time:	30 seconds
Test temperature:	20°C ± 0.5°C
Neutralising solution:	30g/l polysorbate 80, 3g/l lecithin, 1g/l histidine, 1g/l cysteine; in phosphate buffer
Incubation temperature:	37°C ± 1°C
Identification of bacterial strain(s) used:	*Escherichia coli* NCTC 10418 Methicillin-resistant *Staphylococcus aureus* NCTC 12493

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Test results:

Test Organism		*Escherichia coli*		*MRSA*	
Test Suspension	10^{-6}	Vc1 298	Vc2 314	Vc1 288	Vc2 310
	10^{-7}	Vc1 36	Vc2 32	Vc1 33	Vc2 18
(N)		N = 7.18		N = 7.17	
Toxicity Control	10^{-4}	Vc1 266	Vc2 244	Vc1 230	Vc2 206
(NC)		NC = 7.41 N - NC ≤ 2		NC = 7.34 N - NC ≤ 2	
Dilution Control	10^{-4}	Vc1 286	Vc2 238	Vc1 214	Vc2 248
(NT)		NT = 7.42 NC - NT ≤ ±0.3		NT = 7.36 NC - NT ≤ ±0.3	
Water Control	10^{-4}	Vc1 252	Vc2 238	Vc1 242	Vc2 218
	10^{-5}	Vc1 22	Vc2 28	Vc1 26	Vc2 31
(Nc)		Nc = 7.39		Nc = 7.36	
Results	10^{0}	Vc1 15	Vc2 17	Vc1 43	Vc2 36
	10^{-1}	Vc1 3	Vc2 0	Vc1 5	Vc2 6
(Nd)		Nd = 2.20		Nd = 2.60	
(ME)		ME = 5.19		ME = 4.77	
Pass: ME ≥ 4		PASS		PASS	

N = lg of cfu/0.05ml of test suspension
Nd = lg of cfu/ml per test surface
Nc = lg of cfu/ml per control surface
ME = microbial effect (ME = Nc - Nd)

Requirements & Conclusion:

This batch of Sterizar, when used neat, passes the requirements of EN 13697 for bactericidal activity in 30 seconds at 20°C under dirty conditions against both of the reference organisms detailed.

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Certificate of Analysis

Sample(s):	One sample of Sterizar		
Received from:	Creative Supply Solutions Ltd. Malvern Mill, South Wing, Earl Mill, Dowry Street, Oldham, OL8 2PF		
Date received:	31 March 2010	**Date tested:**	18 May 2010
Certificate no:	10C.151ST.CSS	**Certificate date:**	21 May 2010
Sample ref:	10C/151	**Page:**	1 of 2
Analysis required:	BS/EN 13697 quantitative non-porous slide for evaluation of bactericidal activity of chemical disinfectants		

Product stored at:	Room temperature
Active substance:	Not declared

Test conditions:

Product test concentration:	Neat as received
Product diluent used during test:	N/A
Contact time:	5 minutes
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 strains used:	Methicillin-resistant *Staphylococcus aureus* NCTC 12493 *Escherichia coli* NCTC 10418

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Test Procedure:

Glass slides were thoroughly cleaned, rinsed in sterile distilled water and allowed to air dry. A total of 4 slides were treated with Sterizar by spraying the slide with a fine mist, completely covering the slide. These were allowed to air dry then kept in clean sterile Petri dishes for 30 days at room temperature.

After the 30 days 0.2ml of an overnight suspension of the test organism was applied to each of the treated slides (2 slides per test organism). The suspension was spread evenly over the slide using a sterile spreader. After 5 minutes contact time swabs were taken from the slides for each test organism and the swab placed in 10ml of a neutralising solution, shaken vigorously to re-suspend any surviving organisms and 1ml aliquots from this placed into separate sterile Petri dishes. Tryptone Soy Agar was added to the Petri dishes and mixed thoroughly. Once set the Petri dishes were incubated at 37°C for 48 hours and the number of surviving organisms counted.

A further 4 untreated control slides were similarly infected with the test organisms and swabbed after 5 minutes in the same way as the test slides. The results obtained are tabulated in the following section.

Test results:

Test organism	Contact time	Sterizar		Control	
MRSA	5 minutes	210	160	3.43×10^5	2.62×10^5
E. coli	5 minutes	610	520	4.09×10^5	4.68×10^5

Conclusion:

According to the test procedure detailed above, Sterizar is effective in killing Methicillin-resistant *Staphylococcus aureus* and *Escherichia coli* after one application. This effectiveness was sustained for the duration of the 30 day test period.

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Certificate of Analysis

Sample(s):	One sample of Sterizar		
Received from:	Creative Supply Solutions Ltd. Malvern Mill, South Wing, Earl Mill, Dowry Street, Oldham, OL8 2PF		
Date received:	29 January 2010	**Date tested:**	12 February 2010
Certficate no:	10A.053MR.CSS	**Certficate date:**	15 February 2010
Sample ref:	10A/053	**Page:**	1 of 3
Analysis required:	BS/EN 13727 quantitative suspension test for the evaluation of bactericidal activity of chemical disinfectants used in the medical area		

Product stored at:	Room temperature
Active substance:	Not declared
Test conditions:	
Product test concentrations:	Neat as received (80% in test suspension) and 20% v/v
Product diluent used during test:	Sterile hard water 300mg/l $CaCO_3$
Contact time:	5 minutes
Test temperature:	20°C ± 0.5°C
Interfering substance:	3g/l bovine albumin + 3ml/l sheep erythrocytes
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 used:	Methicillin-resistant *Staphylococcus aureus* NCTC 12493

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Test results: (Neat)

Test Organism	MRSA	
10^{-1} Validation Suspension	Vc1 236	Vc2 288
	Nv0 2.62 x10^{3}	
10^{0} Experimental Control	Vc1 204	Vc2 176
	A 1.90 x10^{2}	
10^{0} Neutraliser Control	Vc1 196	Vc2 232
	B 2.14 x10^{2}	
10^{0} Method Validation	Vc1 154	Vc2 182
	C 1.68 x10^{2}	
10^{-6}	Vc1 204	Vc2 176
10^{-7} Test Suspension	Vc1 14	Vc2 23
	N 1.88 x10^{8}	
10^{-2} Results	Vc1 0	Vc2 0
	Na <1.00 x10^{2} R >1.88 x10^{6}	
Log Reduction	>6.27	

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 Sterizar, when used neat, passes the requirements of EN 13727 for bactericidal activity in 5 minutes at 20°C against the reference organism detailed.

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Certificate of Analysis

Sample(s):	One sample of Sterizar		
Received from:	Creative Supply Solutions Ltd. Malvern Mill, South Wing, Earl Mill, Dowry Street, Oldham, OL8 2PF		
Date received:	23 April 2010	**Date tested:**	27 April 2010
Certificate no:	10D.115Cd.CSS	**Certificate date:**	29 April 2010
Sample ref:	10D/115	**Page:**	1 of 2
Analysis required:	BS/EN 13704 quantitative suspension test for the evaluation of sporicidal activity of chemical disinfectants		

Product stored at:	Room temperature
Active substance:	Not declared
Test conditions:	'Clean'
Product test concentration:	Neat as received (80% in test suspension)
Product diluent used during test:	N/A
Contact time:	5 mins
Test temperature:	20°C ± 0.5°C
Interfering substance:	0.3g/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 used:	*Clostridium difficile* NCTC 11209

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Test results:

Test Organism	*Clostridium difficile*	
10^{-1} Validation Suspension	Vc1 514	Vc2 462
	Nv0 4.88 $x10^3$	
10^{0} Experimental Control	Vc1 502	Vc2 444
	A 4.73 $x10^2$	
10^{0} Neutraliser Control	Vc1 478	Vc2 510
	B 4.94 $x10^2$	
10^{0} Method Validation	Vc1 466	Vc2 392
	C 4.29 $x10^2$	
10^{-6}	Vc1 432	Vc2 358
10^{-7} Test Suspension	Vc1 37	Vc2 45
	N 4.03 $x10^8$	
10^{-2} Results	Vc1 14	Vc2 23
	Na 1.85 $x10^3$ R 2.18 $x10^5$	
Log Reduction	5.34	

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 Sterizar, when used neat, passes the requirements of EN 13704 for sporicidal activity in 5 minutes at 20°C under 'clean' conditions against the reference organism detailed.

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Certificate of Analysis

Sample(s):	One sample of Sterizar		
Received from:	Creative Supply Solutions Ltd. Malvern Mill, South Wing, Earl Mill, Dowry Street, Oldham, OL8 2PF		
Date received:	18 February 2010	**Date tested:**	19 February 2010
Certficate no:	10B.117MB.CSS	**Certficate date:**	22 February 2010
Sample ref:	10B/117	**Page:**	1 of 3
Analysis required:	BS/EN 14348 quantitative suspension test for the evaluation of mycobactericidal activity of chemical disinfectants used in the medical area		

Product stored at:	Room temperature
Active substance:	Not declared
Test conditions:	
Product test concentrations:	Neat as received (80% in test suspension) and 20% v/v
Product diluent used during test:	Sterile hard water 300mg/l $CaCO_3$
Contact time:	60 mins
Test temperature:	20°C ± 0.5°C
Interfering substance:	0.3g/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 mycobacterial strains used:	*Mycobacterium avium* ATCC 15769 *Mycobacterium terrae* ATCC 15755

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Test results: (Neat)

Test Organism	*Mycobacterium avium*		*Mycobacterium terrae*	
10^{-1} Validation Suspension	Vc1 514	Vc2 468	Vc1 538	Vc2 474
	Nv0 4.91 x10^3		Nv0 5.06 x10^3	
10^{0} Experimental Control	Vc1 458	Vc2 516	Vc1 426	Vc2 484
	A 4.87 x10^2		A 4.55 x10^2	
10^{0} Neutraliser Control	Vc1 444	Vc2 424	Vc1 512	Vc2 438
	B 4.34 x10^2		B 4.75 x10^2	
10^{0} Method Validation	Vc1 438	Vc2 400	Vc1 466	Vc2 422
	C 4.19 x10^2		C 4.44 x10^2	
10^{-6}	Vc1 416	Vc2 392	Vc1 388	Vc2 316
10^{-7} Test Suspension	Vc1 27	Vc2 36	Vc1 25	Vc2 29
	N 3.60 x10^8		N 3.11 x10^8	
10^{-2} Results	Vc1 0	Vc2 0	Vc1 0	Vc2 0
	Na <1.00 x10^2 R >3.60 x10^6		Na <1.00 x10^2 R >3.11 x10^6	
Log Reduction	>6.56		>6.49	

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 Sterizar, when used neat, passes the requirements of EN 14348 for mycobactericidal activity in 60 minutes at 20°C against the reference organisms detailed.

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Certificate of Analysis

Sample(s):	One sample of Sterizar		
Received from:	Creative Supply Solutions Ltd. Malvern Mill, South Wing, Earl Mill, Dowry Street, Oldham, OL8 2PF		
Date received:	30 April 2010	**Date tested:**	14 May 2010
Certificate no:	10D.140M20.CSS	**Certificate date:**	17 May 2010
Sample ref:	10D/140	**Page:**	1 of 2
Analysis required:	BS/EN 1650 quantitative suspension test for the evaluation of chemical disinfectants (yeast & mould)		

Product stored at:	Room temperature	
Active substance:	Not declared	
Test conditions:	'Dirty'	
Product test concentration:	1:20 v/v	
Product diluent used during test:	Sterile hard water 300mg/l $CaCO_3$	
Contact time:	15 minutes	
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:	30°C ± 1°C	
Identification of fungal strains used:	*Aspergillus niger*	NCPF 2275
	Candida albicans	NCPF 3179

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Test results:

Test Organism	*Aspergillus niger*		*Candida albicans*	
10^{-1} Validation Suspension	Vc1 106	Vc2 72	Vc1 416	Vc2 368
	Nv0 8.90 x10^{2}		Nv0 3.92 x10^{3}	
10^{0} Experimental Control	Vc1 84	Vc2 66	Vc1 322	Vc2 254
	A 7.50 x10^{1}		A 2.88 x10^{2}	
10^{0} Neutraliser Control	Vc1 76	Vc2 58	Vc1 292	Vc2 346
	B 6.70 x10^{1}		B 3.19 x10^{2}	
10^{0} Method Validation	Vc1 56	Vc2 67	Vc1 288	Vc2 362
	C 6.15 x10^{1}		C 3.25 x10^{2}	
10^{-6}	Vc1 29	Vc2 38	Vc1 340	Vc2 374
10^{-7} Test Suspension	Vc1 4	Vc2 7	Vc1 42	Vc2 51
	N 4.43 x10^{7}		N 4.11 x10^{8}	
10^{-2} Results	Vc1 0	Vc2 0	Vc1 0	Vc2 0
	Na <1.00 x10^{2} R >4.43 x10^{5}		Na <1.00 x10^{2} R >4.11 x10^{6}	
Log Reduction	>5.65		>6.61	

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 Sterizar, when used neat, passes the requirements of EN 1650 for fungicidal activity in 15 minutes at 20°C under 'dirty' conditions against the reference organisms detailed.

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BluTest
GLOBAL MICROBIOLOGY EXPERTISE

Test Report: EN 14476; Standard Test Method for Efficacy of Antimicrobial Agents against Viruses in Suspension modified for Feline Calicivirus (Human Norovirus surrogate)

Test Laboratory	**BluTest Laboratories Ltd** Robertson Incubator (Level 4) Robertson Building 56 Dumbarton Road Glasgow G11 6NU
Identification of sample	
Name of the product	**STERIZAR**
Supplier	CSS LTD, Malvern Suite South Wing, Earl Mill, Dowry Street, Oldham, OL8 2PF
Project Code	BT-CSS-01
Sample Delivery Date	16 December 2010
Storage conditions	Room Temperature
Active substances	Not known
Test Method and its validation	
Method	A virus suspension of 0.1 ml was challenged with 0.8 ml of disinfectant agent in the presence of 0.1 ml of interfering substance.
Neutralization	Column chromatography
Experimental Conditions	
Period of analysis	18 to 24 January 2011
Product diluent used	Sterile, hard water
Product test concentrations	80.0 % V/V
Appearance product dilutions	Clear product solution
Contact time (minutes)	t = 5 ± 10 s; t = 15 ± 10 s; t = 30 ± 10 s; t = 60 ± 10 s
Test temperature	20°C ± 1°C
Interfering substance	0.6 g/L foetal bovine serum + 0.3g/L bovine serum albumin
Stability of mixture	Precipitate absent throughout the test
Temperature of incubation	37°C ± 1°C
Identification of virus	Feline calicivirus/CRFK cells (Human norovirus surrogate)

Conclusion

According to EN 14476, **SteriZar** from CSS Ltd is virucidal (> 4.0 $\log_{10}$ reduction) in 5 minutes at 20°C under CLEAN conditions (0.6 g/L protein as foetal bovine serum + 0.3 g/L bovine serum albumin) for feline calicivirus (human norovirus surrogate).

Signed

Dr Chris Woodall
Director, BluTest Laboratories Ltd
Glasgow, UK, 25 January 2011

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BluTest
GLOBAL MICROBIOLOGY EXPERTISE

Suspension test results for the efficacy of SteriZar from CSS Ltd against FELINE CALICIVIRUS under CLEAN CONDITIONS

Exposure Time	Virus Recovery 0 min		Virus Recovery 60 min		Cytotoxicity		Disinfectant Suppression		80% (v/v)	
	raw data	$TCID_{50}$/ml	raw data	$TCID_{50}$/ml	raw data	$TCID_{50}$/ml	raw data	$TCID_{50}$/ml	raw data	$TCID_{50}$/ml
t = 60	5.00	**3.16E+06**	5.00	**3.16E+06**	1.00	**3.16E+02**	2.33	**6.76E+03**	1.00	**3.16E+02**
		3.16E+06		**3.16E+06**		**3.16E+02**		**6.76E+03**		**3.16E+02**
log		**6.50**		**6.50**		**2.50**		**3.83**		**2.50**
log difference								**2.67**		**4.00**
	raw data	$TCID_{50}$/ml	raw data	$TCID_{50}$/ml					raw data	$TCID_{50}$/ml
t = 30	5.00	**3.16E+06**	5.00	**3.16E+06**					1.00	**3.16E+02**
		3.16E+06		**3.16E+06**						**3.16E+02**
log		**6.50**		**6.50**						**2.50**
log difference										**4.00**
	raw data	$TCID_{50}$/ml	raw data	$TCID_{50}$/ml					raw data	$TCID_{50}$/ml
t = 15	5.00	**3.16E+06**	5.00	**3.16E+06**					1.00	**3.16E+02**
		3.16E+06		**3.16E+06**						**3.16E+02**
log		**6.50**		**6.50**						**2.50**
log difference										**4.00**
	raw data	$TCID_{50}$/ml	raw data	$TCID_{50}$/ml					raw data	$TCID_{50}$/ml
t = 5	5.00	**3.16E+06**	5.00	**3.16E+06**					1.00	**3.16E+02**
		3.16E+06		**3.16E+06**						**3.16E+02**
log		**6.50**		**6.50**						**2.50**
log difference										**4.00**

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BluTest
GLOBAL MICROBIOLOGY EXPERTISE

Table of results of virucidal activity against FELINE CALICIVIRUS under clean conditions for SteriZar from CSS Ltd under CLEAN CONDITIONS

Product: STERIZAR	Interfering substance	Concentration	Level of cytotoxicity	lg TCID50					>4 lg reduction after .. Min
				0 min	5 min	15 min	30min	60 min	
	0.3g/l BSA	80% (v/v)	2.50	6.50	2.50	2.50	2.50	2.50	5
Formaldehyde		0.7% (w/v)	1.50	6.50	5.83	3.00	2.50	2.50	30
Virus Control		n.a.	n.a.	6.50	n.a.	n.a.	n.a.	6.50	n.a.

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GLOBAL MICROBIOLOGY EXPERTISE

CONTROL DATA

Stock Virus ($TCID_{50}$)	6.33	6.76E+07

Formaldehyde reference inactivation control

Exposure time	Virus recovery 0 min		Virus recovery 60 min		Cytotoxicity		0.7% Formaldehyde							
							5		15		30		60	
	raw data	$TCID_{50}$/ml	raw data	$TCID_{50}$/ml	raw data	$TCID_{50}$/ml	raw data	$TCID_{50}$/ml	raw data	$TCID_{50}$/ml	raw data	$TCID_{50}$/ml	raw data	$TCID_{50}$/ml
60 min	5.00	3.16E+06	5.00	3.16E+06	0.00	3.16E+01	4.33	6.76E+05	1.50	1.00E+03	1.00	3.16E+02	1.00	3.16E+02
		3.16E+06		3.16E+06		3.16E+01		6.76E+05		1.00E+03		3.16E+02		3.16E+02
log		6.50		6.50		1.50		5.83		3.00		2.50		2.50
log difference								0.67		3.50		4.00		4.00

No Column Control

Virus Recovery t min	
raw data	$TCID_{50}$/ml
6.17	4.68E+07
	4.68E+07
	7.67

PASS

Interference control

Cytoxicity dilution

Virus dilution	-1	-2	-3
-5	+++	+++	+++
-6	+++	+++	++-
-7	-+-	-+-	-+-

PASS

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Abbott Analytical

Consulting Scientists to the Disinfectant Industry

Certificate of Analysis

Sample(s):	One sample of Sterizar		
Received from:	Creative Supply Solutions Ltd. Malvern Mill, South Wing, Earl Mill, Dowry Street, Oldham, OL8 2PF		
Date received:	19 January 2010	**Date tested:**	5 February 2010
Certficate no:	10A.053M.CSS	**Certficate date:**	9 February 2010
Sample ref:	10A/053	**Page:**	1 of 2
Analysis required:	BS/EN 1275 quantitative suspension test for the evaluation of fungicidal activity of chemical disinfectants		

Product stored at:	Room temperature
Active substance:	Not declared
Test conditions:	
Product test concentration:	Neat as received
Product diluent used during test:	N/A
Contact time:	15 mins
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:	30°C ± 1°C
Identification of fungal strains used:	*Candida albicans* NCTC 3179 *Aspergillus niger* NCTC 2275

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Test results:

Test Organism	*Aspergillus niger*		*Candida albicans*	
10^{-1} Validation Suspension	Vc1 868	Vc2 958	Vc1 922	Vc2 814
	Nv0 9.13 x10^3		Nv0 8.68 x10^3	
10^0 Experimental Control	Vc1 788	Vc2 652	Vc1 830	Vc2 744
	A 7.20 x10^2		A 7.87 x10^2	
10^0 Neutraliser Control	Vc1 792	Vc2 714	Vc1 912	Vc2 852
	B 7.53 x10^2		B 8.82 x10^2	
10^0 Method Validation	Vc1 832	Vc2 756	Vc1 864	Vc2 838
	C 7.94 x10^2		C 8.51 x10^2	
10^{-5}	Vc1 768	Vc2 956	Vc1 1120	Vc2 878
10^{-7} Test Suspension	Vc1 152	Vc2 94	Vc1 232	Vc2 112
	N 1.05 x10^9		N 1.36 x10^9	
10^{-2} Results	Vc1 76	Vc2 55	Vc1 83	Vc2 61
	Na 6.55 x10^3 R 1.60 x10^5		Na 7.20 x10^3 R 1.89 x10^5	
Log Reduction	5.20		5.28	

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:

According to EN 1275 this batch of Sterizar, when used neat, possesses satisfactory fungicidal activity in 15 minutes at 20°C against the reference organisms detailed.

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