TEST REPORT TOETSVERSLAG

SABS

South African Bureau of Standards
1 Dr Lategan Road, Groenkloof
Private Bag X191, Pretoria, 0001
Tel (012) 428-7911 Fax (012) 344-1568
Int. code +27 12

Suid-Afrikaanse Buro vir Standaarde
Dr Lateganweg 1, Groenkloof
Privaatsak X191, Pretoria, 0001
Tel (012) 428-7911 Faks (012) 344-1568
Int. kode +27 12

U verw/Your ref. dd 99-02-22

Ons verw/Our ref. 17/37/9

Navrae/Enquiries 428-6087

Datum/Date 1999 -03- 16

5447/1066950/S846

Health and Hygiene
Attention: Mr.J.Temperley
P.O.Box 347
SUNNINGHILL
2157

THIS TEST HAS BEEN CARRIED OUT USING A FIO "SUPER CONCENTRATE" SAMPLE

FORMULA 10 SUPER CONCENTRATE

1. DESCRIPTION OF SAMPLES

One sample labelled "Formula 10 Super Concentrate Batch 990207" was received on 1999-02-22 and tested on 1999-02-24.

2. TESTS REQUESTED

To determine the bactericidal efficacy of the sample subject to the following conditions:

a)	Dilution of sample:	0,2%
b)	Diluent:	Sterile water
c)	Temperature of test:	20°C
d)	Test organisms:	*P.aeruginosa* SATCC Pse 16 *E.coli* SATCC Ecs 25 *S.aureus* SATCC Sta 53 *Enterococcus hirae* SATCC Str 6
e)	Test organism load:	Approximately 10^8 organisms per 10 mℓ of test solution;
f)	Exposure time:	5 min.
g)	Inactivator:	A suitable fluid inactivator
h)	Counting medium:	Nutrient and Brain Heart agar

3. METHOD/.....

SOUTH AFRICAN BUREAU OF STANDARDS SUID-AFRIKAANSE BURO VIR STANDAARDE

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3. METHOD OF TEST

The sample was tested in accordance with the method described in the BS EN Standard 1276:1997 for Chemical disinfectants and antiseptics- Basic bactericidal activity-Test method and requirements (phase 1) and subject to the conditions stated in Paragraph 2 above.

4. RESULTS

Bactericidal efficacy

Sample	Dilution	Exposure time	Reduction in viability (Clean conditions)			
			P.aeruginosa	*E.coli*	*S.aereus*	*Ent.hirae*
Formula 10 Super Concentrate Batch 990207	0,2%	5 min	$>2,1x10^5$	$>2,1x10^5$	$>2,1x10^5$	$>2,1x10^5$

REMARK:

When tested in accordance with clause 5, shall demonstrate at least a 10^5 log reduction in viable counts.

FAX NO.(011) 803-4022

R van Rensburg
MICROBIOLOGY DEPARTMENT

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TEST REPORT

SABS

U verw/Your ref. dd 99-03-12

Ons verw/Our ref. 17/37/9

Navrae/Enquiries 428-6087

Datum/Date 14-10-2002

5447/1066950/S1183a

bladsy/page 1 van/of 3

Health and Hygiene
Attention: Mr.J.Temperley
P.O.Box 347
SUNNINGHILL
2157

THIS TEST HAS BEEN CARRIED OUT USING A FIO "SUPER CONCENTRATE" SAMPLE

FORMULA 10 SUPER CONCENTRATE

1. DESCRIPTION OF SAMPLES

One sample labelled "Formula 10 Super Concentrate Batch 990207" was received on 1999-02-22 and tested on 1999-03-20.

2. TESTS REQUESTED

To determine the bactericidal efficacy of the sample subject to the following conditions:

a)	Dilution of sample:	0,2%
b)	Diluent:	Sterile hard water with a hardness lower than 300 mg/kg of $CaCo_3$ clean conditions: 0,3g/ℓ dirty conditions: 1% skimmed milk
c)	Temperature of test:	20°C and 10°C
d)	Test organisms:	*P.aeruginosa* ATCC 15442 *E.coli* ATCC 10536 *S.aureus* ATCC 6538 *Enterococcus hirae* ATCC 8043
e)	Test organism load:	Approximately 10^8 organisms per 10 mℓ of test solution;
f)	Exposure time:	5 min. and 1 min.
g)	Inactivator:	A suitable fluid inactivator
h)	Counting medium:	Nutrient and Brain Heart agar

3. METHOD/.....

SABS test report

REPORT No. 5447/1066950/S1183a Page 2

3. METHOD OF TEST

The sample was tested in accordance with the method described in the prEN 1276:1997 for Chemical disinfectants and antiseptics- Basic bactericidal activity-Test method and requirements (clause 5) and subject to the conditions stated in Paragraph 2 above.

4. RESULTS

Bactericidal efficacy

Sample	Dilution	Condi-tions	Exposure time	Number of cfu/mℓ in test mixture			
				P. aeruginosa	*E. coli*	*S. aereus*	*Ent. hirae*
Formula 10 Super Concen-trate Batch 990207	0,2% at 20°C	Clean	5 min	$< 1,5x10^2$	$< 1,5x10^2$	$< 1,5x10^2$	$< 1,5x10^2$
			1 min	$> 3,0x10^3$	$< 1,5x10^2$	$< 1,5x10^2$	$< 1,5x10^2$
		Dirty	5 min	$< 1,5x10^2$	$< 1,5x10^2$	$< 1,5x10^2$	$< 1,5x10^2$
			1 min	$9,6x10^2$	$< 1,5x10^2$	$< 1,5x10^2$	$< 1,5x10^2$
Formula 10 Super Concen-trate Batch 990207	0,2% at 10°C	Clean	5 min	$< 1,5x10^2$	$< 1,5x10^2$	$< 1,5x10^2$	$< 1,5x10^2$
			1 min	$> 3,0x10^3$	$< 1,5x10^2$	$< 1,5x10^2$	$< 1,5x10^2$
		Dirty	5 min	$3,02x10^3$	$< 1,5x10^2$	$< 1,5x10^2$	$< 1,5x10^2$
			1 min	$> 3,0x10^3$	$7,1x10^3$	$< 1,5x10^2$	$< 1,5x10^2$

Sample	Dilution	Condition	Contact time	Reduction in viability			
				P. aeruginosa	*E. coli*	*S. aureus*	*Ent. hirae*
Formula 10 Super concentrate Batch 990207	0,2% at 20°C	Clean	5 min	> 5	> 5	> 5	> 5
			1 min	< 5	> 5	> 5	> 5
		Dirty	5 min	> 5	> 5	> 5	> 5
			1 min	$5,6x10^3$	> 5	> 5	> 5
	0,2% at 10°C	Clean	5 min	> 5	> 5	> 5	> 5
			1 min	< 5	> 5	> 5	> 5
		Dirty	5 min	$1,78x10^4$	> 5	> 5	> 5
			1 min	< 5	$1,4x10^3$	> 5	> 5

REMARK:

When tested in accordance with clause 5, the sample shall demonstrate at least a 10^5 or more reduction in viability.

SABS test report

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Test Organisms	Validation test			Bacterial test suspension
	Bacterial Suspension	Neutralizer toxicity control	Dilution neutralization control	
P.aeruginosa	$5,4x10^3$	$4,6x10^2$	$4,0x10^2$	$5,4x10^7$
E.coli	$1,0x10^3$	$6,8x10^2$	$6,1x10^2$	$1,0x10^8$
S.aureus	$3,9x10^3$	$2,3x10^3$	$2,1x10^3$	$3,9x10^8$
Ent.hirae	$1,3x10^3$	$8,2x10^2$	$9,4x10^2$	$1,3x10^8$

FAX NO.(011) 803-4022

R van Rensburg
MICROBIOLOGY DEPARTMENT

TEST REPORT TOETSVERSLAG

SABS

South African Bureau of Standards
1 Dr Lategan Road, Groenkloof
Private Bag X191, Pretoria, 0001
Tel (012) 428-7911 Fax (012) 344-1568
Int. code +27 12

Suid-Afrikaanse Buro vir Standaarde
Dr Lateganweg 1, Groenkloof
Privaatsak X191, Pretoria, 0001
Tel (012) 428-7911 Faks (012) 344-1568
Int. kode +27 12

U verw/Your ref. dd 99-02-17

Ons verw/Our ref. 17/37/9

Navrae/Enquiries 428-6087

Datum/Date 1999 -03- 16

5447/1066950/S779

bladsy/page 1 van/of 2

Health and Hygiene
Attention: Mr.J.Temperley
P.O.Box 347
SUNNINGHILL
2157

THIS TEST HAS BEEN CARRIED OUT USING A FIO "SUPER CONCENTRATE" SAMPLE

FORMULA 10 SUPER CONCENTRATE

1. DESCRIPTION OF SAMPLES

One sample labelled "Formula 10 Super Concentrate Batch 990207" was received on 1999-02-17 and tested on 1999-02-17.

2. TESTS REQUESTED

To determine the bactericidal efficacy of the sample subject to the following conditions:

a)	Dilution of sample:	0,2%, 0,3% and 0,4%
b)	Diluent:	Sterile water
c)	Temperature of test:	20°C
d)	Test organisms:	*P.aeruginosa* SATCC Pse 16 and *S.aureus* SATCC Sta 53
e)	Test organism load:	Approximately 10^8 organisms per 10 mℓ of test solution;
f)	Exposure time:	5 min.
g)	Inactivator:	A suitable fluid inactivator
h)	Counting medium:	Nutrient agar

3. METHOD/.....

SOUTH AFRICAN BUREAU OF STANDARDS SUID-AFRIKAANSE BURO VIR STANDAARDE

TEST REPORT No. 5447/1066950/S779 Page / Bladsy 2
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3. METHOD OF TEST

The sample was tested in accordance with the method described in the BS EN Standard 1040:1997 for Chemical disinfectants and antiseptics- Basic bactericidal activity-Test method and requirements (phase 1) and subject to the conditions stated in Paragraph 2 above.

4. RESULTS

Bactericidal efficacy

Sample	Dilution	Exposure time	Reduction in viability	
			P.aeruginosa	*S.aureus*
Formula 10 Super Concentrate Batch 990207	0,2% 0,3% 0,4%	5 min	$>2,1x10^5$ $>2,1x10^5$ $>2,1x10^5$	$>2,1x10^5$ $>2,1x10^5$ $>2,1x10^5$

REMARK:

When tested in accordance with clause 5, shall demonstrate at least a 10^5 log reduction in viable counts.

FAX NO.(011) 472-4211

R van Rensburg
MICROBIOLOGY DEPARTMENT

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TEST REPORT TOETSVERSLAG

SABS

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1 Dr Lategan Road, Groenkloof
Private Bag X191, Pretoria, 0001
Tel (012) 428-7911 Fax (012) 344-1568
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Suid-Afrikaanse Buro vir Standaarde
Dr Lateganweg 1, Groenkloof
Privaatsak X191, Pretoria, 0001
Tel (012) 428-7911 Faks (012) 344-1568
Int. kode +27 12

U verw/Your ref. dd 99-02-17

Ons verw/Our ref. 17/37/9

Navrae/Enquiries 428-6087

Datum/Date 1999 -03- 11

5447/1066950/S779a

bladsy/page 1 van/of 3

Health and Hygiene
Attention: Mr.J.Temperley
P.O.Box 347
SUNNINGHILL
2157

THIS TEST HAS BEEN CARRIED OUT USING A FIO "SUPER CONCENTRATE" SAMPLE

FORMULA 10 SUPER CONCENTRATE

1. DESCRIPTION OF SAMPLES

One sample labelled "Formula 10 Super Concentrate Batch 990207" was received on 1999-02-17 and tested on 1999-02-17.

2. TESTS REQUESTED

To determine the fungicidal efficacy of the sample subject to the following conditions:

a)	Dilution of sample:	0,2% and 0,3%
b)	Diluent:	Sterile water plus 1% skimmed milk.
c)	Temperature of test:	10°C and 30°C
d)	Test organisms:	*Aspergillus niger* ATCC 16404 *Candida albicans* ATCC 10231
e)	Test organism load:	Approximately 10^7 organisms per 10 mℓ of test solution;
f)	Exposure time:	30 min.
g)	Inactivator:	A suitable fluid inactivator
h)	Counting medium:	Malt agar and YM agar

3. METHOD/.....

3. METHOD OF TEST

The sample was tested in accordance with the method described in the EN 1657:1994 for Chemical disinfectants and antiseptics used in veterinary area- Basic fungicidal activity- and subject to the conditions stated in Paragraph 2 above.

4. RESULTS

Fungicidal efficacy

Sample	Dilution	Temperature	Exposure time	Number of cfu/mℓ in test mixture	
				A.niger	*C.albicans*
Formula 10 Super Concentrate Batch 990207	0,2%	10°C	30 min	$1,0x10^5$	$1,2x10^5$
	0,3%			$5,2x10^4$	$4,3x10^3$
	0,2%	30°C		NT	< 10
	0,3%			NT	< 10

Sample	Dilution	Temperature	Contact time	Reduction in viability	
				Aspergillus niger	*C.albicans*
Formula 10 Super concentrate Batch 990207	0,2%	10°C	30 min	$4,7x10^1$	$1,9x10^2$
	0,3%			$9,0x10^2$	$5,3x10^5$
	0,2%	30°C		NT	$>2,1x10^5$
	0,3%			NT	$>2,1x10^5$

Note: NT = not tested
REMARK:

When tested in accordance with clause 5, shall demostrate at least a $3x10^2$ cfu/mL reduction in viable counts from $1x10^6$-$3x10^6$ cfu/mL count, within 30 min at 10°C or 30°C for teat disinfectants.

Note: Teat disinfectants are required to demonstrate fungicidal activity against *Candida albicans* only.

SOUTH AFRICAN BUREAU OF STANDARDS SUID-AFRIKAANSE BURO VIR STANDAARDE

TEST REPORT No.
TOETSVERSLAGNO 5447/1066950/S779a

Test Organisms	Validation test			Organism test suspension
	Organism Suspension	Neutralizer toxicity control	Dilution neutralization control	Fungal test suspension
A.niger	$9,0x10^2$	$4,0x10^1$	$6,0x10^1$	$2,6x10^7$
C.albicans	$2,0x10^2$	$1,1x10^2$	$7,2x10^1$	$2,3x10^8$

FAX NO.(011) 803-4022

R van Rensburg
MICROBIOLOGY DEPARTMENT

TEST REPORT

SABS

MICROBIOLOGY DEPARTMENT 7218

U verw/Your ref: O/N S 060

Ons verw/Our ref: 17/37/9

Navrae/Enquiries: 428-6087

Datum/Date: 2005-02-04

1733791/04-2186/X31628a

Bladsy/page 1 van/of 2

Health & Hygiene
Attention: Mr JP Temperley
P.O.Box 347
SUNNINGHILL
2157

DISINFECTANT EFFICACY TEST – EN 13704 -2002

THIS TEST HAS BEEN CARRIED OUT USING A FIO "SUPER CONCENTRATE" SAMPLE

1. DESCRIPTION OF SAMPLE

One sample labelled "F10SC B/N 211" was received on 6/7/2004 and tested on 9/7/2004.

2. TESTS REQUESTED

Sporicidal activity of the chemical disinfectant using *Bacillus subtilis* spores as test organism.

3. METHOD OF TEST

The sample was tested in accordance with EN 13704-2002 Specification for Disinfectants.

3.1 A test suspension of bacterial spores in solution of interfering substance, simulating clean conditions, added to a preparation sample of the product under test diluted in hard water. (Dilution: 1/50 and 1/100)

3.2 The mixture is maintained at 20°C ± 1°C for 5 minutes and 60 minutes ± 10 seconds.

3.3 At this contact time an aliquot was taken and the sporicidal action is immediately neutralized using a suitable neutralizer.

3.4 Test spore suspension Bacillus *subtilis* ATCC 6633.

Spore suspension requirement:
The number of spores in the test suspension adjusted to $1,5 \times 10^6$ to 5×10^6 cfu/ml .
Suspension maintained in a water bath at 20°C ± 1°C (use within 2 hours)

4 Results / ....

3.5 Hard Water – anhydrous magnesium chloride, anhydrous calcium chloride and sodium bicarbonate.
3.6 Interfering substance – 1% Skimmed milk

4. RESULTS

Sporicidal activity of F10SC (B/N 211)

Sample	Dilution	Contact time	Serial dilution	*B. subtilis* spores		
				cfu /ml	Percentage kill	
F10SC B/N 211 (X31628)	1/100	5min	Direct	100 15	99,9	
			10^{-1}	123	97,0	
			10^{-2}	15	99,7	
			10^{-3}	1	97,6	av. kill 99.9 %
	1/100	60 min	Direct	171 191	99,5	
			10^{-1}	138	97,0	
			10^{-2}	22	95,0	
			10^{-3}	0	99,9	av. kill 99.9 %
	1/50	5 min	Direct	5 2	99,9	
			10^{-1}	66	98,4	
			10^{-2}	13	97,0	
			10^{-3}	1	98,0	av. kill 99.9 %
	1/50	60 min	Direct	116 112	99,7	
			10^{-1}	159	96,2	
			10^{-2}	19	95,4	
			10^{-3}	1	95,2	av. kill 99.8 %

Spore suspension:
Initial spore suspension count – $2{,}85 \times 10^{6}$ cfu /ml

Conclusion:
Sporicidal activity for specific purpose is characterized by the concentration of the test product for which criteria are met for which a 10^{3} (99,9%) or more reduction in viability is demonstrated under required test conditions.

MA KERR
TEST OFFICER: MICROBIOLOGY

RA ROOS
MANAGER: MICROBIOLOGY DEPARTMENT

Fax: (011) 474 1670

TEST REPORT

SABS

MICROBIOLOGY DEPARTMENT 7218

U verw/Your ref: O/N S 060

Ons verw/Our ref: 17/37/9

Navrae/Enquiries: 428-6087

Datum/Date: 2005-02-04

1733791/04-2186/X 31628b

Bladsy/page 1 van/of 2

Health & Hygiene
Attention: Mr JP Temperley
P.O.Box 347
SUNNINGHILL
2157

THIS TEST HAS BEEN CARRIED OUT USING A FIO "SUPER CONCENTRATE" SAMPLE

DISINFECTANT EFFICACY TEST – EN 1650 - 1997

1. DESCRIPTION OF SAMPLE

One sample labelled "F10SC B/N 211" was received on 6/7/2004 and tested 9/7/2004.

2. TESTS REQUESTED

Fungicidal activity of the chemical disinfectant using *Aspergillus niger* spores as test organism.

3. METHOD OF TEST

The sample was tested in accordance with EN 1650-1997 Specification for Disinfectants.

3.1 A test suspension of fungal spores in solution of interfering substance, simulating clean conditions, added to a preparation sample of the product under test diluted in hard water.

3.2 The mixture is maintained at 20°C ± 1°C for 5 minutes and 15 minutes ± 10 seconds.

3.3 At this contact time an aliquot was taken and the fungicidal action is immediately neutralized using a suitable neutralizer.

3.4 Test spore suspension *Aspergillus niger* ATCC 16404.

Spore suspension requirement:
The number of spores in the test suspension adjusted to $1,5 \times 10^6$ to 5×10^6 cfu/ml .
Suspension maintained in a water bath at 20°C ± 1°C (use within 2 hours)

4 Results / ....

3.5 Hard Water – anhydrous magnesium chloride, anhydrous calcium chloride and sodium bicarbonate.
3.6 Interfering substance – 1% Skimmed milk

4. RESULTS

Fungicidal activity of F10SC (B/N 211)

Sample	Dilution	Contact time	Serial dilution	*Aspergillus niger* spores	
				cfu/ml	Percentage kill
F10SC B/N 211 (X31628)	1/50	5min	10^{-1}	159	99,9
			10^{-2}	90	99,7
			10^{-3}	52	98,4
	1/50	15 min	10^{-1}	138	99,9
			10^{-2}	111	99,7
			10^{-3}	54	98,4
	1/100	5 min	10^{-1}	113	99,9
			10^{-2}	86	99,7
			10^{-3}	34	99,0
	1/100	15min	10^{-1}	115	99,9
			10^{-2}	86	99,7
			10^{-3}	31	99,0

Spore suspension:

Initial spore suspension count – $4{,}85 \times 10^{6}$ cfu /ml (within the requirement)

Conclusion:
Fungicidal activity for specific purpose is characterized by the concentration of the test product for which criteria are met for which a 10^{3} (99,9%) or more reduction in viability is demonstrated under required test conditions.

MA KERR
TEST OFFICER: MICROBIOLOGY

RA ROOS
MANAGER: MICROBIOLOGY

Fax: (011) 474 1670

MICROBIOLOGY DEPARTMENT 7218

U verw/Your ref: O/N S060

Ons verw/Our ref: 17/37/9

Navrae/Enquiries: 428-6087

Datum/Date: 2005-02-04

1733791/04-2186/X 31628c

Bladsy/page 1 van/of 2

Health & Hygiene
Attention: Mr JP Temperley
P.O.Box 347
SUNNINGHILL
2157

DISINFECTANT EFFICACY TEST – EN 13697-2001

THIS TEST HAS BEEN CARRIED OUT USING A FIO "SUPER CONCENTRATE" SAMPLE

1. DESCRIPTION OF SAMPLE

One sample labelled "F10SC B/N 211" was received on 6/7/2004 and tested on 9/7/2004.

2. TESTS REQUESTED

Fungicidal activity of the chemical disinfectant using *Aspergillus niger* spores as test organism.

3. METHOD OF TEST

The sample was tested in accordance with EN 13697 - 2001 Specification for Disinfectants.

3.1 A test suspension of fungal spores in solution of interfering substance, simulating clean conditions, added to a preparation sample of the product under test diluted in hard water.

3.2 The mixture is maintained at 20°C ± 1°C for 5 minutes and 15 minutes ± 10 seconds.

3.3 At this contact time an aliquot was taken and the fungicidal action is immediately neutralized using a suitable neutralizer.

3.4 Test spore suspension *Aspergillus niger* ATCC 16404.

Spore suspension requirement:
The number of spores in the test suspension adjusted to $1,5 \times 10^6$ to 5×10^6 cfu/ml .
Suspension maintained in a water bath at 20°C ± 1°C (use within 2 hours)

4 Results / ....

3.5 Hard Water – anhydrous magnesium chloride, anhydrous calcium chloride and sodium bicarbonate.
3.6 Interfering substance – 1% Skimmed milk

4. RESULTS

Fungicidal activity of F10SC (B/N 211)

Sample	Dilution	Contact time	Direct	*Aspergillus niger* spores		
				cfu/ml duplicates		Percentage kill
F10SC B/N 211 (X31628)	1/50	5min	Disc	111	64	99,99
	1/50	15 min	Disc	77	65	99,99
	1/100	5 min	Disc	88	69	99,99
	1/100	15min	Disc	60	67	99,99

Spore suspension:

Initial spore suspension count – 1,6 x 10^6 cfu /ml (within the requirement)

Conclusion:
Quantitative non porous surface test (disc) for the evaluation of fungicidal activity of chemical disinfectants used in the food , industrial, domestic and institutional areas – without mechanical action for which a 10^3 (99,99%) or more reduction in viability is demonstrated under required test conditions.

MA KERR
TEST OFFICER: MICROBIOLOGY

RA ROOS
MANAGER: MICROBIOLOGY

Fax: (011) 474 1670

TEST REPORT

SABS

MICROBIOLOGY DEPARTMENT 7218

U verw/Your ref: e-M 4/10/2004

Ons verw/Our ref: 17/37/9

Navrae/Enquiries: 428-6087

Datum/Date: 2005-02-04

1733791/04-3294/X38022-3

Bladsy/page 1 van/of 2

Health & Hygiene
Attention: Mr JP Temperley
P.O.Box 347
SUNNINGHILL
2157

DISINFECTANT EFFICACY TEST – EN 13704 - 2002

THIS TEST HAS BEEN CARRIED OUT USING A FIO "SUPER CONCENTRATE" SAMPLE

1. DESCRIPTION OF SAMPLES

Two samples labelled "F10SC B/N 050506 & F10SC B/N 211" were received on 7/10/2004 and tested on 13/10/2004 and 19/10/2004.

2. TESTS REQUESTED

Sporicidal activity of the chemical disinfectant using *Bacillus subtilis* spores as test organism.

3. METHOD OF TEST

The samples were tested in accordance with EN 13704-2002 Specification for Disinfectants.

3.1 A test suspension of bacterial spores in solution of interfering substance, simulating clean conditions, added to a preparation sample of the product under test diluted in hard water. (Dilution 1/100)

3.2 The mixture is maintained at 20°C ± 1°C for 5 minutes ± 10 seconds.

3.3 At this contact time an aliquot was taken and the sporicidal action is immediately neutralized using a suitable neutralizer.

3.4 Test spore suspension Bacillus *subtilis* ATCC 6633.

Spore suspension requirement:
The number of spores in the test suspension adjusted to $1,5 \times 10^6$ to 5×10^6 cfu/ml .
Suspension maintained in a water bath at 20°C ± 1°C (use within 2 hours)

4 Results / ....

3.5 Hard Water – anhydrous magnesium chloride, anhydrous calcium chloride and sodium bicarbonate.
3.6 Interfering substance – 1% Skimmed milk

4. RESULTS

Sporicidal activity of F10SC (B/N 050506 and B/N 211)

Sample	Dilution	Contact time	Serial dilution	Percentage kill of *B. subtilis* spores	
				13/10/2004	19/10/2004
F10SC B/N 050506 (X38022)	1/100	5min	Direct	99,74	99,80
			10^{-1}	99,86	99,98
			10^{-2}	99,99	99,99
			10^{-3}	99,99	99,99
F10SC B/N 211 (X38023)	1/100	5 min	Direct	99,97	99,97
			10^{-1}	99,99	99,99
			10^{-2}	99,99	99,99
			10^{-3}	99,99	99,99

Spore suspension:

Initial spore suspension count - 2,85 x 10^{6} cfu /ml (within the requirement)

Conclusion:
Sporicidal activity for specific purpose is characterized by the concentration of the test product for which criteria are met for which a 10^{3} (99,9%) or more reduction in viability is demonstrated under required test conditions.

MA KERR
TEST OFFICER: MICROBIOLOGY

RA ROOS
MANAGER: MICROBIOLOGY

Fax: (011) 474 1670