SANITISE Ireland

PRODUCT CERTIFICATION

ENSURING A **SANITISED ENVIRONMENT**

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Blutest MRSA

Certificate of analysis for MRSA by Blutest

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SANITISE Ireland

ENSURING A SANITISED ENVIRONMENT

BluTest
GLOBAL MICROBIOLOGY EXPERTISE

Test Report: EN 1276 2009 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 — Test method and requirements (phase 2, step 1)

Test Laboratory	**BluTest Laboratories Ltd** Robertson Incubator (Level 4) Robertson Building 56 Dumbarton Road Glasgow UK - G11 6NU
Identification of sample	
Name of the product	**CreBiSol X10**
Batch number	28.5.14
Client	**CREATIVE BIOCIDAL SOLUTIONS LIMITED** First Floor, Block C, Balbriggan Business Campus, Balbriggan, CO Dublin
Project Code	BT-HIP-02A(1)
Date of Delivery	30 May 2014
Storage conditions	Cool, well ventilated area. Keep container tightly closed
Active substances	DDQ50
Test Method and its validation	
Method	Chemical-neutralization
Neutralizer	Lecithin 11.7g/l, Polysorbate 80 100g/l, sodium thiosulphate 5.0g/l, sodium dodecyl sulphate 10.0g/l, sodium chloride 8.5g/l, tryptone 1.0g/l sterilized by autoclave
Experimental Conditions	
Period of analysis	26-27 June 2014
Product diluent used	Sterile, synthetic hard water
Product test concentrations	1.0 % V/V; 2.0 % V/V; 5.0 % V/V: 10.0 % V/V
Appearance product dilutions	Test mixture becomes cloudy at 10%, 5%, 2%, 1% and Control C
Contact time	t = 30 s ± 10 s
Test temperature	20°C ± 1°C
Interfering substance	3.0g/l bovine serum albumin
Stability of mixture	Stable
Temperature of incubation	37 °C ± 1°C
Identification of strains	*MRSA UK15*

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Email: info@blutest.com Website: www.blutest.com
Company Registration Number: SC364409 VAT Registration Number: GB 979 1131 96

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EN 1276 Results for the efficacy of CreBiSol X10 from Creative Biocidal Solutions Ltd under DIRTY CONDITIONS

Test organisms	Validation test				Bacterial test suspension (N)	Test procedure at concentration % (V/V)			
	Bacterial Suspension (Nv)	Experimental conditions (A)	Neutralizer toxicity Control or filtration control (B)	Dilution-neutralization control or filtration test control (C)			1.00%	2.00%	5.00%	10.00%
MRSA UK15	*V* c: 49 ; 52	Vc: 40 ; 48	Vc: 44 ; 48	Vc: 59 ; 64	10^{-8}: 215 ; 221	N	32 ; 37	2 ; 4	0 ; 0	0 ; 1
Neat					10^{-9}: 17 ; 27	Na	3.45E+02	<1.40E+02	<1.40E+02	<1.40E+02
					N: 2.18E+10	R	<10(8)	>10(8)	>10(8)	>10(8)
ATCC 15442	*N* v: 5.05E+02	A: 4.40E+01	B: 4.60E+01	C: 6.15E+01						
Validation	$30 \le Nv_0 \le 160$? yes	$A \ge 0.5 \times Nv_0$? yes	$B \ge 0.5 \times Nv_0$? yes	$C \ge 0.5 \times Nv_0$? yes	$9.17 \le \log N_0 \le 9.70$? yes	Test is valid				
MRSA UK15	*V* c: 49 ; 52	Vc: 40 ; 48	Vc: 44 ; 48	Vc: 59 ; 64	10^{-8}: 215 ; 221	-1	4 ; 6	0 ; 0	0 ; 1	0 ; 0
10E-1 product					10^{-9}: 17 ; 27	Na	<1.40E+02	<1.40E+02	<1.40E+02	<1.40E+02
					N: 2.18E+10	R				
ATCC 15442	*N* v: 5.05E+02	A: 4.40E+01	B: 4.60E+01	C: 6.15E+01						
Validation	$30 \le Nv_0 \le 160$? yes	$A \ge 0.5 \times Nv_0$? yes	$B \ge 0.5 \times Nv_0$? yes	$C \ge 0.5 \times Nv_0$? yes	$9.17 \le \log N_0 \le 9.70$? yes	Test is valid				
MRSA UK15	*V* c: 49 ; 52	Vc: 40 ; 48	Vc: 44 ; 48	Vc: 59 ; 64	10^{-8}: 215 ; 221	-2	1 ; 3	0 ; 0	0 ; 0	0 ; 0
10E-2 product					10^{-9}: 17 ; 27	Na	<1.40E+02	<1.40E+02	<1.40E+02	<1.40E+02
					N: 2.18E+10	R				
ATCC 15442	*N* v: 5.05E+02	A: 4.40E+01	B: 4.60E+01	C: 6.15E+01						
Validation	$30 \le Nv_0 \le 160$? yes	$A \ge 0.5 \times Nv_0$? yes	$B \ge 0.5 \times Nv_0$? yes	$C \ge 0.5 \times Nv_0$? yes	$9.17 \le \log N_0 \le 9.70$? yes	Test is valid				

See comments below

V c = viable count

N = number of cfu/ml of the bacterial test suspension

N v = number of cfu/ml in the bacterial suspension

R = reduction in viability

N a = number of cfu/ml in the test mixture

A = number of cfu/ml of the experimental conditions validation

B = number of cfu/ml of the neutralizer toxicity validation or of the filtration validation

C = the number of cfu/ml of the dilution-neutralization validation or the membrane filtration test validation

COMMENTS

Test carried out using ~1.5-5.0 x 10 10 cfu/ml as specified by the client. Additional dilutions to be carried out for test plates (10-1 and 10-2). Make ~50mls of N (at 1.5-5.0 x 109 cfu/ml). Read 10-1 on the spec. to check the range. Centrifuge at 2000g

SOP 11000
SOP 8000 EN1276 REPORT TEMPLATE V06
Effective Date: 16 June 2014

BT-HIP-02A(1)

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Conclusion

According to a modified EN 1276 2009 procedure, **CreBiSol X10 POSESSES BACTERICIDAL** activity of > 8.0 log_{10} reduction at a concentration of **2.0 % V/V** as tested after **30 SECONDS** at **20°C** under **DIRTY** conditions (3.0 g/l bovine serum albumin) against Meticillin resistant *Staphylococcus aureus* strain UK 15.

Signed

Dr Chris Woodall, Director
BluTest Laboratories Ltd
Glasgow, UK,
Date: 30 April 2015

Expanded Uncertainty of Measurement U = ± 0.49 logs

DISCLAIMER

The results in this test report only pertain to the sample supplied.
BluTest (BT) has performed the testing detailed in this report using reasonable skill and care and has used reasonable endeavours to carry out the testing in accordance with a modified EN 1276 protocol. All forecasts, recommendations and results contained in this report are submitted in good faith. However, other than as expressly set out in this report, no warranty is given (i) in relation to the testing or the use(s) to which any results or deliverables produced in the course of the testing are or may be put by the Client or their fitness or suitability for any particular purpose or under any special conditions notwithstanding that any such purpose or conditions may have been made known to BT or (ii) that the intended results or deliverables from the testing can be achieved or (iii) that the Client can freely make use of the results or the deliverables without infringing any third party intellectual property rights and the Client will be deemed to have satisfied itself in this regard. BT shall have no liability (which is hereby excluded to the fullest extent permissible by law) in respect of any loss, liability or damage, including without limitation any indirect and/or consequential loss such as loss of profit or loss of business, market or goodwill, that the Client may suffer directly or indirectly as a result of or in connection with: (i) the performance of the testing; (ii) the use of any materials, samples or other information provided by the Client for use in the testing; and (iii) the Client's reliance upon or use of any results or deliverables provided as part of the testing.

SOP 11000
SOP 8000 EN1276 REPORT TEMPLATE V06
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2 Blutest Norovirus

Certificate of analysis for Norovirus by Blutest

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GLOBAL MICROBIOLOGY EXPERTISE

Test Report: EN 14476 2013 Chemical disinfectants and antiseptics - Virucidal quantitative suspension test for chemical disinfectants and antiseptics used in human medicine - Test method and requirements (phase 2/step 1)

Test Laboratory	**BluTest Laboratories Ltd** Robertson Incubator (Level 4) Robertson Building 56 Dumbarton Road Glasgow UK - G11 6NU
Identification of sample	
Name of the product	**CreBiSol x10**
Batch number	BT-HIP-05-01
Client	Creative Biocidal Solutions-Ireland
Project Code	BT-HIP-05
Date of Delivery	28-Apr-15
Storage conditions	Ambient Temperature, darkness
Active substances	Not Specified
Test Method and its validation	
Method	1 part interfering substance + 1 part virus suspension + 8 parts biocide were mixed and incubated at the indicated contact temperature for the indicated contact times. Assays were validated by a cytotoxicity control, interference control, neutralization control and a formaldehyde internal standard.
Neutralizer	Dilution-neutralization/gel filtration; Dulbecco's modified Eagles medium + 5% v/v foetal bovine serum at 4°C
Experimental Conditions	
Period of analysis	19-May-15 to 22-May-15
Product diluent used	Hard Water
Product test concentrations	1in20 / 1in50
Appearance product dilutions	Clear
Contact time (mins)	5 ± 10s
Test temperature	20°C ± 1°C
Interfering substance	3.0g/l bovine albumin + 3.0 ml/l sheep erythrocytes
Stability of mixture	6 months
Temperature of incubation	37°C ± 1°C + 5% CO_2
Identification of strains	**Murine norovirus Berlin s99 / RAW cells**

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GLOBAL MICROBIOLOGY EXPERTISE

PROTOCOL SUMMARY

The basic virucidal efficacy test is set up with three concentrations of disinfectant and a 5 and 60 minute contact time. Virus is exposed to disinfectant in 24-well plates, then neutralized, serially diluted and virus titred in 96-well tissue culture plates to determine the tissue culture infectious dose$_{50}$ ($TCID_{50}$) of surviving virus. $TCID_{50}$ is determined by the method of Karber[1].

Cytotoxicity control
The neutralized disinfectant is measured for its effects on the host cells used to propagate the virus, to determine the sensitivity of the assay.

Interference control
The end point titration of the virus is exposed to three different sub-lethal concentrations of neutralized disinfectant to measure the effect of sub-lethal concentrations of disinfectant on virus infectivity in relation to the titre achieved on untreated cells.

Disinfectant suppression control
Virus is added to the highest concentration of disinfectant and then the mixture immediately removed and neutralized. The neutralized virus titre is then determined to assess the efficiency of the neutralization procedure.

Virus recovery control
Virus titre is determined for virus in contact with sterile hard water at t=0, t = 5 and at t =60. The virus titre after 5 minutes is then compared to the recovery of disinfectant-treated virus to measure the log reduction in virus titre. The virus titre at 60 minutes is compared to the reference virus inactivation control.

Reference virus inactivation control
Virus is exposed to 0.7% W/V formaldehyde and the recovery of virus determined by $TCID_{50}$ after 5, 15, 30 and 60 minutes, in order to assess that the test virus has retained reproducible biocide resistance. In addition, the formaldehyde cytotoxicity of neutralized formaldehyde is determined, to measure assay sensitivity.

1Kärber, G.: Beitrag zur Kollektiven Behandlung Pharmakologischer Reihenversuche. Arch. Exp. Path. Pharmak. 162 (1931): 480-487.

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Murine norovirus Berlin strain s99.

SOP 10000 V04 EN14476 Suspension test results for the efficacy of CreBiSol x10, Batch BT-HIP-05 from Creative Biocidal Solutions-Ireland against MNV												
Exposure Time	Virus Recovery 0 min		Virus Recovery 5 min		Cytotoxicity		Disinfectant Suppression		1in20		1in50	
	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
t = 5	4.33	**6.76E+05**	4.00	**3.16E+05**	1.00	**3.16E+02**	2.50	**1.00E+04**	0.00	**3.16E+01**	0.50	**1.00E+02**
		6.76E+05		**3.16E+05**		**3.16E+02**		**1.00E+04**		**3.16E+01**		**1.00E+02**
log		**5.83**		**5.50**		**2.50**		**4.00**		**1.50**		**2.00**
log difference								**1.50**		**4.00**		**3.50**

Table of results of virucidal activity against MNV under dirty conditions for CreBiSol x10, Batch BT-HIP-05 from Creative Biocidal Solutions-Ireland									
Product: CreBiSol x10	Interfering substance	Concentration	Level of cytotoxicity	lg $TCID_{50}$					>4 lg reduction after .. Min
				0 min	5 min	15 min	30min	60 min	
	3.0g/l BSA + 3.0ml/l erythrocytes	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
		1in50	2.50	5.83	2.00	n.a.	n.a.	n.a.	>5
		1in20	2.50	5.83	1.50	n.a.	n.a.	n.a.	<5
	3.0g/l BSA	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
		1in50	2.50	5.83	2.00	n.a.	n.a.	n.a.	>5
		1in20	2.50	5.83	1.50	n.a.	n.a.	n.a.	<5
Formaldehyde	PBS	0.7% (w/v)	3.50	5.83	5.50	4.83	4.00	3.50	>60
Virus Control	BSA + erythrocytes	n.a.	n.a.	5.83	5.50	n.a.	n.a.	n.a.	n.a.
Virus Control	BSA	n.a.	n.a.	5.83	5.50	n.a.	n.a.	n.a.	n.a.

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Control Data

Control Data for: BT-HIP-05

Parallel control test

Exposure Time	Virus Recovery 0 min		Virus Recovery 5 min		1in20		1in50	
	raw data	$TCID_{50}$/ml	raw data	$TCID_{50}$/ml	raw data	$TCID_{50}$/ml	raw data	$TCID_{50}$/ml
t = 5	4.33	6.76E+05	4.00	3.16E+05	0.00	3.16E+01	0.50	1.00E+02
		6.76E+05		3.16E+05		3.16E+01		1.00E+02
log		5.83		5.50		1.50		2.00
log difference						4.00		3.50

Stock Virus ($TCID_{50}$)	5.50	1.00E+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	4.33	6.76E+05	4.00	3.16E+05	2.00	3.16E+03	4.00	3.16E+05	3.33	6.76E+04	2.50	1.00E+04	2.00	3.16E+03
		6.76E+05		3.16E+05		3.16E+03		3.16E+05		6.76E+04		1.00E+04		3.16E+03
log		5.83		5.50		3.50		5.50		4.83		4.00		3.50
log difference								0.00		0.67		1.50		2.00

No Column Control

Virus Recovery 5 min	
raw data	$TCID_{50}$/ml
4.83	2.14E+06
	2.14E+06
	6.33

Interference control

Virus dilution	Cytoxicity dilution			
	-1	-2	-3	Mock
-4	3	3	3	3
-5	3	3	3	3
-6	3	3	3	3

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CONCLUSION

Verification of the methodology

A test is only valid if the following criteria are fulfilled:

a) Test virus suspension has at least a concentration which allows the determination of a 4 $\log_{10}$ reduction of the virus titre.
b) Detectable titre reduction is at least 4 $\log_{10}$.
c) Difference of the logarithmic titre of the virus control minus the logarithmic titre of the test virus in the reference inactivation test is between – 0.5 and – 2.5 after 30 min and between – 2 and – 4.5 after 60 min for virus.
d) Cytotoxicity of the product solution does not affect cell morphology and growth or susceptibility for the test virus in the dilutions of the test mixtures which are necessary to demonstrate a 4 log reduction of the virus.
e) The interference control result does not show a difference of < 1.0 $\log_{10}$ of virus titre in comparison to the virus recovery control; dilutions of disinfectant to sub-acute levels did not interfere in the generation of viral cytopathic effect.
e) Neutralisation validation. This is called the disinfectant suppression test in this protocol. The difference for virus is slightly elevated indicating rapid irreversible virucidal activity of the disinfectant by dilution at a concentration of 1/20.
f) A difference of <0.5 $\log_{10}$ is not observed between virus recovered directly from the virus recovery control at 60 minutes and virus from the same control recovered through an Illustra Microspin S-400 HR column

According to EN 14476 2013, **CreBiSol x10 POSSESSES VIRUCIDAL** activity at a concentration of **1/20** as tested after **5 MINUTES** at **20°C** under **DIRTY** conditions (3.0 g/l bovine albumin + 3.0 ml/l erythrocytes) against Murine norovirus Berlin s99 / RAW cells **.**

Signed

Dr Chris Woodall, Director
BluTest Laboratories Ltd
Glasgow, UK
Date: 05 June 2015

UKAS TESTING

4597

Expanded Uncertainty of Measurement U = ± 0.44

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GLOBAL MICROBIOLOGY EXPERTISE

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3 COSHH Assessment

Safeguarding your living & working environment!

COSHH Assessment

crebisol cleans • disinfects • protects	**Product**	**Crebisol**	**Manufacturer**	Creative Biocidal Solutions Ltd. Emergency Contact Details: : 00447768 644372	**Hazard**
	Workplace exposure Limit	Not relevant	**Composition**	DIDECYLDIMETHYLAMMONIUM CHLORIDE <0.2%; ISOTRIDECANOL ETHOXYLATE 3-20 <0.1% ;DIPROPYL ETHER <0.1% PROPAN-2-OL <0.1%;	No significant hazard. Biodegradable Product. Not identified as a PTB Product. S2: Keep out of the reach of children. S25: Avoid contact with eyes. S37: Wear suitable gloves
	Date of safety data sheet	28th May 2014			

Description and Use	**Quantity, time task takes & frequency**	**Persons Exposed**	**Initial Assessor**	**Date of Initial Assessment**
Multi-surface multi environment cleaner disinfectant & decontaminant. Pink liquid with mild citrus odor.	Dispenses 1:50 dilution rate with water into bucket or trigger spray bottle. Use as per the frequency of cleaning schedule within 72 hours.	Staff and those in the vicinity	Safety Support Partner	December 2015

Personal Protective equipment	**Working Methods & Controls** NB Should the chemical be used outside of those activities listed on this assessment then you must contact the Safety Helpline for further guidance	**Safe Handling & Storage**
Whilst Using: **Latex Gloves**: 1-4 hrs butyl rubber, nitrile rubber EN374  **Whilst Dispensing** **Latex Gloves**: 1-4 hrs butyl rubber, nitrile rubber EN374 Goggles & wear suitable protective clothing. 	• Suitable for all surfaces • Dispense into mop bucket or trigger spray bottle • Apply to floor surfaces with mop and bucket and allow to dry • Apply to other surfaces using Trigger Spray directly • Wipe down with a vigorous cleaning action using micro-fibre cloth and leave to dry • Soft furnishings – impregnate micro fibre cloth with crebisol and wipe down using vigorous cleaning action • Glass should be buffed to a superior shine when dry using dry micro fibre cloth	**Handling** – Do not get in eyes. Do not ingest. After handling, always wash hands thoroughly with soap and water. **Storage** – Store in bucket or trigger spray bottle. Dispose of any unused diluted product after 72 hours.

Accidental Release/ Spillage		**First Aid**	**Fire Fighting**	**Disposal**
Personal Precautions	Large spill and leak Immediately contact safety personnel.	**Eyes**: In case of contact with eyes, rinse immediately with plenty of water. Get medical attention immediately. **Skin**: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. **Ingestion**: Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately	Use extinguishers below. Fire fighters should wear proper protective equipment 	Waste must be disposed of according to applicable regulations. Use as much of the contents as possible, according to instructions. Can be added to general waste collection after completely emptying. Use packages for recycling only when totally empty.
Environmental Precautions	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.			
Spillage	Rinse with plenty of running water.			
Exposure Monitoring & Health Surveillance	None			

Level of risk with control measures in place - Low Management Sign off_____Date_____Review Date:

4 Abbott Test C-Diff

Certificate of analysis by Abbott Analytical

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SANITISE Ireland
ENSURING A SANITISED ENVIRONMENT

Abbott Analytical

Consulting Scientists to the Disinfectant Industry

Certificate of Analysis

Product name:	CreBiSol X10		
Batch or ref no:			
Manufacturer or supplier:	Creative Biocidal Solutions Ltd. Balbriggan Business Campus, Balbriggan, Co Dublin, Republic of Ireland		
Sample ref:	15D/071	**Date received:**	9 April 2015
Date tested:	10 April 2015	**Certificate date:**	13 April 2015
Certificate no:	15D.071ICd2.HIP	**Page:**	1 of 3
Analysis required:	EN 13704:2002, 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)		
Storage conditions:	Room temperature		
Appearance of product (solution):	Clear colourless liquid		
Active substance(s) and their concentration(s):	Not declared		

Notes:

* Re-issued 5 May 2015 with amended brand name.

The test results in this report relate only to the sample(s) tested.
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Abbott Analytical

Consulting Scientists to the Disinfectant Industry

Certificate no: 15D.071ICd2.HIP **Date:** 13 April 2015 **Page:** 2 of 3

Experimental conditions:

Concentration(s) of product tested:	1:20 & 1:50 v/v
Product diluent:	Sterile hard water (300mg/l $CaCO_3$)
Test organism(s):	*Clostridium difficile* (NCTC 11209)
Contact time(s):	60 minutes
Test temperature:	20°C ± 0.5°C
Test conditions:	Dirty
Interfering substance:	3.0g/l bovine albumin
Neutralising solution:	30g/l Polysorbate 80 + 3g/l Lecithin + 1g/l L-histidine + 1g/l L-cysteine
Incubation temperature:	37°C ± 1°C

Conclusion:

When tested at concentrations of 1:20 and 1:50, this sample of CreBiSol X10 passes the requirements of of EN 13704:2002 for sporicidal activity in 60 minutes at 20°C under dirty conditions against *Clostridium difficile* (NCTC 11209).

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Certificate no: 15D.071ICd2.HIP **Date:** 13 April 2015 **Page:** 3 of 3

Results: Clostridium difficile (NCTC 11209)

Validation tests			
Spore suspension	Experimental conditions	Neutraliser toxicity	Dilution-neutralisation
Vc: 85 ; 73	Vc: 91 ; 64	Vc: 80 ; 66	Vc: 71 ; 58
Nv: 7.9×10^{2}	Nv: 7.8×10^{1}	Nv: 7.3×10^{1}	Nv: 6.5×10^{1}

Spore test suspension	Test procedure at Contact time 60 mins Test conc. 1:20 v/v	Test procedure at Contact time 60 mins Test conc. 1:50 v/v
10^{-4} : 134 ; 158	Vc: 0 ; 0	Vc: 5 ; 3
10^{-5} : 17 ; 23	Na: $< 1.5 \times 10^{2}$	Na: $< 1.5 \times 10^{2}$
N: 1.5×10^{6}	R: $> 1.0 \times 10^{3}$ PASS	R: $> 1.0 \times 10^{3}$ PASS

D C Watson BSc,CBiol,MSB,MIFST,ACIEHO

Unit 2, Hickmans Road,
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United Kingdom

Tel: +44 (0)151 324 1276
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5 Abbott Test NDM-1

Certificate of analysis for super-bug NDM-1
by Abbott Analytical

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ENSURING A SANITISED ENVIRONMENT

Abbott Analytical

Consulting Scientists to the Disinfectant Industry

Test Report

Product name:	Crebisol		
Batch or ref no:			
Manufacturer or supplier:	Crebisol Ltd 17 Sunningdale Drive, Newcastle, BT33 0QJ		
Sample ref:	17G/001	**Date received:**	20 November 2017
Date tested:	1 December 2017	**Certificate date:**	4 December 2017
Certificate no:	17L.054MKn.CBS	**Page:**	1 of 3
Analysis required:	EN 13727:2012+A2:2015, Chemical disinfectants and antiseptics - Quantitative suspension test for the evaluation of bactericidal activity in the medical area - Test method and requirements (phase 2, step 1)		
Storage conditions:	Room temperature in darkness		
Appearance of product (solution):	Blue liquid		
Active substance(s) and their concentration(s):	Not disclosed		

Notes

The test results in this report relate only to the sample(s) tested.
This test report may not be reproduced except in full, adapted, altered or used to create a derivative work, without written approval from Abbott Analytical.

D C Watson BSc,CBiol,MRSB

Abbott Analytical Limited
Unit 2, Hickmans Road,
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Registered address: Kemp House, 160 City Road,
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Company number 10031406

Abbott Analytical

Consulting Scientists to the Disinfectant Industry

Certificate no: 17L.054MKn.CBS **Date:** 4 December 2017 **Page:** 2 of 3

Experimental conditions

Concentration(s) of product tested:	1:20 & 1:50 v/v
Product diluent:	Sterile hard water (300 mg/l $CaCO_3$)
Test organism(s):	*Klebsiella pneumoniae* NDM-1 (NCTC 13443)#
Contact time(s):	5 min ± 10 s
Test temperature:	20 °C ± 1 °C
Test conditions:	Dirty
Interfering substance:	3.0 g/l bovine albumin + 3.0 ml/l sheep erythrocytes
Method:	Dilution-neutralisation
Neutralising solution:	30 g/l Polysorbate 80 + 3g /l Lecithin + 1 g/l L-histidine + 1 g/l L-cysteine
Incubation temperature:	36 °C ± 1 °C

A New Delhi Metallo-β-lactamase (NDM-1) producing, carbapenem-resistant Enterobacteriaceae (CRE).

Conclusion

When tested at concentrations of 1:20 and 1:50 this sample of Crebisol meets the requirements of EN 13727:2012+A2:2015 for bactericidal activity in 5 minutes at 20 °C, under dirty conditions, against the referenced strain of *Klebsiella pneumoniae* NDM-1.

D C Watson BSc,CBiol,MRSB

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Certificate no: 17L.054MKn.CBS **Date:** 4 December 2017 **Page:** 3 of 3

Results: *Klebsiella pneumoniae* NDM-1 (NCTC 13443)#

Validation and controls:

Validation suspension (Nv_o)			Experimental conditions control (A)			Neutralizer or filtration control (B)			Method validation (C)		
$Vc1$	143	$\bar{x}$ =	$Vc1$	141	$\bar{x}$ =	$Vc1$	140	$\bar{x}$ =	$Vc1$	137	$\bar{x}$ =
$Vc2$	148	145.5	$Vc2$	140	140.5	$Vc2$	143	141.5	$Vc2$	139	138
$30 \le \bar{x}\ (Nv_o) \le 160$? ☒ yes ☐ no			$\bar{x}\ (A) \ge 0.5 \times \bar{x}\ (Nv_o)$? ☒ yes ☐ no			$\bar{x}\ (B) \ge 0.5 \times \bar{x}\ (Nv_o$ or $Nv_B/1000)$? ☒ yes ☐ no			$\bar{x}\ (C) \ge 0.5 \times \bar{x}\ (Nv_o)$? ☒ yes ☐ no		

Validation suspension (Nv_B)	$Vc1$	141	$\bar{x}$ =	$30 \le \bar{x}\ (Nv_B/1000) \le 160$?
	$Vc2$	145	143	☒ yes ☐ no

Test suspension:
(N and N_o)

N	$Vc1$	$Vc2$	$\bar{x}$(wm) = 2.91 x10^{8} ; lg N = 8.46
10^{-6}	291	293	$N_o = N/10$; lg N_o = 7.46
10^{-7}	26	30	$7.17 \le \lg N_o \le 7.70$? ☒ yes ☐ no
Control of weighted mean counts (N)			Quotient = 10.43 Between 5 and 15 ? ☒ yes ☐ no

Test:

Product test conc.	Contact time	Diln. step	$Vc1$	$Vc2$	$Na = \bar{x}$(wm) x10 lg Na =	lg R = (lg N_o - lg Na)	Status
1:20	5 min	10^{0}	0	0	< 2.15	> 5.31	PASS
		10^{-1}	0	0			
1:50	5 min	10^{0}	5	2	< 2.15	> 5.31	PASS
		10^{-1}	0	0			

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6 Crebisol X10 (Concentrate)

Crebisol Safety Data Sheet

Safeguarding your living & working environment!

SANITISE Ireland

ENSURING A SANITISED ENVIRONMENT

SAFETY DATA SHEET

ANTIBACTERIAL SURFACE CLEANER AND VIRUS TREATMENT-CONCENTRATE

Compilation date: 21/05/2015

Revision No: 2

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name: **CreBiSol X10** ANTIBACTERIAL SURFACE CLEANER AND VIRUS TREATMENT CONCENTRATE

Product code: TASCC

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of substance / mixture: Cleaner and disinfectant

1.3. Details of the supplier of the safety data sheet

Company name: **Creative Biocidal Solutions Ltd**
Balbriggan Business Campus
Balbriggan
Co Dublin
Ireland

Tel: 00353862470690

Email:

1.4. Emergency telephone number

Emergency tel: 00447768 644372

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Classification under CHIP: Xi: R36/38

Classification under CLP: Skin Corr. 1B: H314

Most important adverse effects: Irritating to eyes and skin.

2.2. Label elements

Label elements under CLP:

Hazard statements: H314: Causes severe skin burns and eye damage. **Signal words:** Danger

Hazard pictograms: GHS05: Corrosion

Precautionary statements: P102: Keep out of reach of children.
P264: Wash hands thoroughly after handling.

SAFETY DATA SHEET

ANTIBACTERIAL SURFACE CLEANER AND VIRUS TREATMENT-CONCENTRATE

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes.

[cont...]

Remove contact lenses, if present and easy to do. Continue rinsing.

P321: Specific treatment (see on this label).

P405: Store locked up.

:

.

2.3. Other hazards

PBT: This product is not identified as a PBT substance.

Section 3: Composition/information on ingredients

3.2. Mixtures

Hazardous ingredients:

DIDECYLDIMETHYLAMMONIUM CHLORIDE

EINECS	CAS		CLP Classification	Percent
230-525-2	7173-51-5		Acute Tox. 4: H302; Skin Corr. 1B: H314	5-10%

ISOTRIDECANOL ETHOXYLATE 3-20

-	24938-91-8		Acute Tox. 4: H302+332; Eye Dam. 1: H318	1.0-5.0%

DIPROPYL ETHER

203-869-6	111-43-3	.	Flam. Liq. 2: H225; STOT SE 3: H336; -: EUH019; -: EUH066	1.0-5.0%

PROPAN-2-OL

200-661-7	67-63-0		Flam. Liq. 2: H225; Eye Irrit. 2: H319; STOT SE 3: H336	1.0-5.0%

Section 4: First aid measures

4.1. Description of first aid measures

Skin contact: Remove all contaminated clothes and footwear immediately unless stuck to skin. Wash immediately with plenty of soap and water.

Eye contact: Bathe the eye with running water for 15 minutes. Consult a doctor.

[cont...]

SAFETY DATA SHEET

ANTIBACTERIAL SURFACE CLEANER AND VIRUS TREATMENT-CONCENTRATE

Ingestion: Wash out mouth with water. Consult a doctor.

Inhalation: Remove casualty from exposure ensuring one's own safety whilst doing so. Consult a doctor.

4.2. Most important symptoms and effects, both acute and delayed

Skin contact: There may be irritation and redness at the site of contact.

Eye contact: There may be irritation and redness. The eyes may water profusely.

Ingestion: There may be soreness and redness of the mouth and throat.

Inhalation: There may be irritation of the throat with a feeling of tightness in the chest. Exposure may cause coughing or wheezing.

Delayed / immediate effects: Immediate effects can be expected after short-term exposure.

4.3. Indication of any immediate medical attention and special treatment needed

Immediate / special treatment: Eye bathing equipment should be available on the premises.

Section 5: Fire-fighting measures

5.1. Extinguishing media

Extinguishing media: Suitable extinguishing media for the surrounding fire should be used. Use water spray to cool containers.

5.2. Special hazards arising from the substance or mixture

Exposure hazards: In combustion emits toxic fumes.

5.3. Advice for fire-fighters

Advice for fire-fighters: Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Refer to section 8 of SDS for personal protection details. If outside do not approach from downwind. If outside keep bystanders upwind and away from danger point. Mark out the contaminated area with signs and prevent access to unauthorised personnel. Turn leaking containers leak-side up to prevent the escape of liquid.

6.2. Environmental precautions

Environmental precautions: Do not discharge into drains or rivers. Contain the spillage using bunding.

6.3. Methods and material for containment and cleaning up

Clean-up procedures: Absorb into dry earth or sand. Transfer to a closable, labelled salvage container for disposal by an appropriate method.

6.4. Reference to other sections

[cont...]

SAFETY DATA SHEET

ANTIBACTERIAL SURFACE CLEANER AND VIRUS TREATMENT-CONCENTRATE

Reference to other sections: Refer to section 8 of SDS.

Section 7: Handling and storage

7.1. Precautions for safe handling

Handling requirements: Avoid direct contact with the substance. Ensure there is sufficient ventilation of the area. Do not handle in a confined space. Avoid the formation or spread of mists in the air.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in cool, well ventilated area. Keep container tightly closed.

7.3. Specific end use(s)

Specific end use(s): No data available.

Section 8: Exposure controls/personal protection

8.1. Control parameters

Hazardous ingredients:

DIPROPYL ETHER

Workplace exposure limits:

			Respirable dust	
State	8 hour TWA	15 min. STEL	8 hour TWA	15 min. STEL
UK	1050 mg/m3	-	-	-

PROPAN-2-OL

UK	999 mg/m3	1250 mg/m3	-	-

8.1. DNEL/PNEC Values

DNEL / PNEC No data available.

8.2. Exposure controls

Engineering measures: Ensure there is sufficient ventilation of the area.

Respiratory protection: Self-contained breathing apparatus must be available in case of emergency.

Hand protection: Protective gloves.

Eye protection: Safety glasses. Ensure eye bath is to hand.

Skin protection: Protective clothing.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

State: Liquid

Colour: pink

Odour: Pleasant

[cont...]

SAFETY DATA SHEET

ANTIBACTERIAL SURFACE CLEANER AND VIRUS TREATMENT-CONCENTRATE

Evaporation rate: Slow

Solubility in water: Highly soluble

Viscosity: Non-viscous

Boiling point/range°C: 100 **Flash point°C:** >93

pH: 11 **VOC g/l:** 70

9.2. Other information

Other information: No data available.

Section 10: Stability and reactivity

10.1. Reactivity

Reactivity: Stable under recommended transport or storage conditions.

10.2. Chemical stability

Chemical stability: Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions: Hazardous reactions will not occur under normal transport or storage conditions. Decomposition may occur on exposure to conditions or materials listed below.

10.4. Conditions to avoid

Conditions to avoid: Heat.

10.5. Incompatible materials

Materials to avoid: Strong oxidising agents. Strong acids.

10.6. Hazardous decomposition products

Haz. decomp. products: In combustion emits toxic fumes.

Section 11: Toxicological information

11.1. Information on toxicological effects

Hazardous ingredients:

DIDECYLDIMETHYLAMMONIUM CHLORIDE

IPR	RAT	LD50	45	mg/kg
ORL	MUS	LD50	268	mg/kg

DIPROPYL ETHER

IVN	MUS	LD50	204	mg/kg

PROPAN-2-OL

IVN	RAT	LD50	1088	mg/kg

[cont…]

SAFETY DATA SHEET

ANTIBACTERIAL SURFACE CLEANER AND VIRUS TREATMENT-CONCENTRATE

ORL	MUS	LD50	3600	mg/kg
ORL	RAT	LD50	5045	mg/kg
SCU	MUS	LDLO	6	gm/kg

Relevant effects for mixture:

Effect	Route	Basis
Irritation	OPT DRM	Hazardous: calculated

Symptoms / routes of exposure

Skin contact: There may be irritation and redness at the site of contact.

Eye contact: There may be irritation and redness. The eyes may water profusely.

Ingestion: There may be soreness and redness of the mouth and throat.

Inhalation: There may be irritation of the throat with a feeling of tightness in the chest. Exposure may cause coughing or wheezing.

Delayed / immediate effects: Immediate effects can be expected after short-term exposure.

Section 12: Ecological information

12.1. Toxicity

Ecotoxicity values: No data available.

12.2. Persistence and degradability

Persistence and degradability: Biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential: No bioaccumulation potential.

12.4. Mobility in soil

Mobility: Readily absorbed into soil.

12.5. Results of PBT and vPvB assessment

PBT identification: This product is not identified as a PBT substance.

12.6. Other adverse effects

Other adverse effects: Negligible ecotoxicity.

Section 13: Disposal considerations

13.1. Waste treatment methods

Disposal operations: Transfer to a suitable container and arrange for collection by specialised disposal company.

NB: The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

Section 14: Transport information

[cont...]

SAFETY DATA SHEET

ANTIBACTERIAL SURFACE CLEANER AND VIRUS TREATMENT-CONCENTRATE

14.1. UN number

UN number: N/A

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

Packing group: N/A

14.5. Environmental hazards

Environmentally hazardous: No **Marine pollutant:** No

14.6. Special precautions for user

Special precautions: No special precautions.

Section 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.2. Chemical Safety Assessment

Section 16: Other information

Other information

Other information: This safety data sheet is prepared in accordance with Commission Regulation (EU) No 453/2010.

* indicates text in the SDS which has changed since the last revision.

Phrases used in s.2 and 3: EUH019: May form explosive peroxides.

EUH066: Repeated exposure may cause skin dryness or cracking.

H225: Highly flammable liquid and vapour.

H302: Harmful if swallowed.

H302+332: Harmful if swallowed or if inhaled.

H314: Causes severe skin burns and eye damage.

H318: Causes serious eye damage.

H319: Causes serious eye irritation.

H336: May cause drowsiness or dizziness.

[cont...]

SAFETY DATA SHEET

ANTIBACTERIAL SURFACE CLEANER AND VIRUS TREATMENT-CONCENTRATE

Legal disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.

[final page]

7

Crebisol X10 (Dilute)

Crebisol Safety Data Sheet

Safeguarding your living & working environment!

SANITISE Ireland

ENSURING A SANITISED ENVIRONMENT

SAFETY DATA SHEET

CREBISOL X10 READY TO USE

Compilation date: 01/06/2016

Revision No: 1

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name: CREBISOL X10 READY TO USE

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of substance / mixture: PC8: Biocidal products (e.g. Disinfectants, pest control).

1.3. Details of the supplier of the safety data sheet

Company name: **Creative Biocidal Solutions Ltd**
Balbriggan Business Campus
Balbriggan , Co Dublin
Ireland

Email:

1.4. Emergency telephone number

Emergency tel: National Poisons Information Centre, Beaumont Hosp

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Classification under CLP: This product has no classification under CLP.

2.2. Label elements

Label elements: This product has no label elements.

2.3. Other hazards

PBT: This product is not identified as a PBT/vPvB substance.

Section 3: Composition/information on ingredients

3.2. Mixtures

Section 4: First aid measures

4.1. Description of first aid measures

Skin contact: Wash immediately with plenty of soap and water.

Eye contact: Rinse immediately with plenty of water also under the eyelids for at least 15 minutes.

Ingestion: Wash out mouth with water.

Inhalation: Consult a doctor.

SAFETY DATA SHEET

CREBISOL X10 READY TO USE

[cont...]

4.2. Most important symptoms and effects, both acute and delayed

Skin contact: There may be mild irritation at the site of contact.

Eye contact: There may be irritation and redness.

Ingestion: There may be irritation of the throat.

Inhalation: No symptoms.

Delayed / immediate effects: Immediate effects can be expected after short-term exposure.

4.3. Indication of any immediate medical attention and special treatment needed

Immediate / special treatment: Not applicable.

Section 5: Fire-fighting measures

5.1. Extinguishing media

Extinguishing media: Suitable extinguishing media for the surrounding fire should be used. Use water spray to cool containers.

5.2. Special hazards arising from the substance or mixture

Exposure hazards: In combustion emits toxic fumes.

5.3. Advice for fire-fighters

Advice for fire-fighters: Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Refer to section 8 of SDS for personal protection details. Turn leaking containers leak-side up to prevent the escape of liquid.

6.2. Environmental precautions

Environmental precautions: Do not discharge into drains or rivers. Contain the spillage using bunding.

6.3. Methods and material for containment and cleaning up

Clean-up procedures: Absorb into dry earth or sand. Transfer to a closable, labelled salvage container for disposal by an appropriate method.

6.4. Reference to other sections

Reference to other sections: Refer to section 8 of SDS.

Section 7: Handling and storage

7.1. Precautions for safe handling

Handling requirements: Avoid direct contact with the substance. Ensure there is sufficient ventilation of the area. Avoid the formation or spread of mists in the air.

[cont...]

SAFETY DATA SHEET

CREBISOL X10 READY TO USE

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in a cool, well ventilated area. Keep container tightly closed.

Suitable packaging: Must only be kept in original packaging.

7.3. Specific end use(s)

Specific end use(s): PC8: Biocidal products (e.g. Disinfectants, pest control).

Section 8: Exposure controls/personal protection

8.1. Control parameters

Workplace exposure limits: No data available.

DNEL/PNEC Values

DNEL / PNEC No data available.

8.2. Exposure controls

Engineering measures: Ensure there is sufficient ventilation of the area. Ensure all engineering measures mentioned in section 7 of SDS are in place.

Respiratory protection: Respiratory protection not required.

Hand protection: Protective gloves.

Eye protection: Safety glasses. Ensure eye bath is to hand.

Skin protection: Protective clothing.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

State: Liquid

Colour: Blue

Odour: Characteristic odour

Evaporation rate: No data available.

Oxidising: No data available.

Solubility in water: No data available.

Viscosity: Non-viscous

Boiling point/range°C: No data available.

Melting point/range°C: No data available.

Flammability limits %: lower: No data available.

upper: No data available.

Flash point°C: No data available.

Part.coeff. n-octanol/water: No data available.

Autoflammability°C: No data available.

Vapour pressure: No data available.

Relative density: 1.0 kg/l

pH: 10.5- 10.9

[cont...]

SAFETY DATA SHEET

CREBISOL X10 READY TO USE

VOC g/l: No data available.

9.2. Other information

Other information: No data available.

Section 10: Stability and reactivity

10.1. Reactivity

Reactivity: Stable under recommended transport or storage conditions.

10.2. Chemical stability

Chemical stability: Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions: Hazardous reactions will not occur under normal transport or storage conditions.

Decomposition may occur on exposure to conditions or materials listed below.

10.4. Conditions to avoid

Conditions to avoid: Heat.

10.5. Incompatible materials

Materials to avoid: Strong oxidising agents. Strong acids.

10.6. Hazardous decomposition products

Haz. decomp. products: In combustion emits toxic fumes.

Section 11: Toxicological information

11.1. Information on toxicological effects

Toxicity values: No data available.

Symptoms / routes of exposure

Skin contact: There may be mild irritation at the site of contact.

Eye contact: There may be irritation and redness.

Ingestion: There may be irritation of the throat.

Inhalation: No symptoms.

Delayed / immediate effects: Immediate effects can be expected after short-term exposure.

Section 12: Ecological information

12.1. Toxicity

Ecotoxicity values: No data available.

12.2. Persistence and degradability

Persistence and degradability: Biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential: No bioaccumulation potential.

[cont...]

SAFETY DATA SHEET

CREBISOL X10 READY TO USE

12.4. Mobility in soil

Mobility: Readily absorbed into soil.

12.5. Results of PBT and vPvB assessment

PBT identification: This product is not identified as a PBT/vPvB substance.

12.6. Other adverse effects

Other adverse effects: Negligible ecotoxicity.

Section 13: Disposal considerations

13.1. Waste treatment methods

Disposal operations: Transfer to a suitable container and arrange for collection by specialised disposal company.

Disposal of packaging: Dispose of as normal industrial waste.

NB: The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

Section 14: Transport information

14.1. UN number

UN number: N/A

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

14.5. Environmental hazards

Environmentally hazardous: No **Marine pollutant:** No

14.6. Special precautions for user

Special precautions: No special precautions.

Section 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Specific regulations: Anionic Surfactants <5%, Safety Data Sheet prepared in accordance with REACH Commission Regulation (EU) No 453/2010 (which amends Regulation (EC) No 1907/2006). Ingredients are listed with classification under GHS/CLP- Regulation (EC)

[cont...]

SAFETY DATA SHEET

CREBISOL X10 READY TO USE

No 1272/2008 classification, labelling & packaging of substances & mixtures. Ingredients according to EC Detergents Regulation 648/2004 : Propan-2-ol, di-ndecyldimethylammoniumchloride (0.154% w/w) Perfume,

15.2. Chemical Safety Assessment

Chemical safety assessment: A chemical safety assessment has not been carried out for the substance or the mixture by the supplier.

[cont...]

SAFETY DATA SHEET

CREBISOL X10 READY TO USE

Section 16: Other information

Other information

Other information: This safety data sheet is prepared in accordance with Commission Regulation (EU) No 453/2010.

* indicates text in the SDS which has changed since the last revision.

Legal disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.

SAFETY DATA SHEET
CREBISOL X10 READY TO USE

8 Coronavirus

Certificate of analysis from
Queen's University Belfast

Safeguarding your living & working environment!

SANITISE Ireland
ENSURING A SANITISED ENVIRONMENT

Test Report: BS EN 14476:2013 + A2:2019 Chemical disinfectants and antiseptics – Quantitative suspension test for the evaluation of virucidal activity in the medical area- Test method and requirements (Phase 2/Step 1)

Test Laboratory	**BluTest Laboratories Ltd** 5 Robroyston Oval, Nova Business Park, Glasgow, G33 1AP
Identification of sample	
Name of the product	Crebisol
Batch number	300919
Client	Crebisol Limited
Client Address	1st Floor, 50 Main Street, Newcastle, BT33 0AD
Project Code	BT-CRB-01
Date of Delivery	06 April 2020
Storage conditions	Ambient
Active substances	DDQ50
Appearance	Liquid
Condition upon receipt	Undamaged
Test Method and its validation	
Method	1 part interfering substance + 1 part virus suspension + 8 parts biocide were mixed and incubated at the indicated contact temperature for the indicated contact times. Assays were validated by a cytotoxicity control, interference control, neutralisation control and a formaldehyde internal standard.
Neutralisation	Dilution-neutralisation/gel filtration NCTC media + 10.0% v/v horse serum at 4°C
Experimental Conditions	
Period of analysis	05 June 2020 to 08 June 2020
Product diluents used	Sterile, synthetic hard water
Product test concentrations	1.0% v/v; 2.0% v/v; 5.0% v/v
Appearance product dilutions	No changes noted- stable
Appearance in test mixture	Sedimentation and Turbidity observed at all concentrations
Contact times (minutes)	2 minutes ± 10s; 5 minutes ± 10s
Test temperature	20°C ± 1°C
Interfering substances	3.0 g/l bovine albumin + 3.0 ml/l erythrocytes
Temperature of incubation	37°C ± 1°C + 5% CO_2
Identification and passage (P) of virus	***Murine coronavirus*** **A59 ATCC VR-764 (P8)**
Identification and passage (P) of cells	NCTC clone 1469 cells (P29)

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PROTOCOL SUMMARY

The basic virucidal efficacy test is set up with three concentrations of test product solution and a 2-minute and 5-minute contact time. Virus is exposed to disinfectant in 24-well plates, then neutralised, serially diluted and virus titred in 96-well tissue culture plates to determine the tissue culture infectious dose$_{50}$ ($TCID_{50}$) of surviving virus. *Murine coronavirus* A59 ATCC VR-764/ NCTC clone 1469 cells are assayed in parallel in each test. $TCID_{50}$ is determined by the method of Karber[1].

Cytotoxicity control
The test product solution is measured for its effects on the host cells used to propagate the virus, to determine the sensitivity of the assay.

Interference control
The effect of the cells after treatment of the test product solution are verified to ensure the cells can show susceptibility for virus infection. This is compared against cells that have not been treated with test product.

Disinfectant suppression control VS1
Virus is added to the highest concentration of test product solution and then the mixture immediately removed and neutralised. The neutralised virus titre is then determined to assess the efficiency of the neutralisation procedure.

Disinfectant suppression control VS2
Internal control which adds virus to neutralised test product solution to assess the efficiency of the neutralisation procedure.

No column Control
Internal control on the highest contact time to assess any impact of the Microspin™ S 400 HR columns.

Virus recovery control
Virus titre is determined for virus in contact with sterile hard water at t=0, t = 5 and at t =60. The virus titre after 5 minutes is then compared to the recovery of disinfectant-treated virus to measure the log reduction in virus titre. The virus titre at 60 minutes is compared to the reference virus inactivation control.

Reference virus inactivation control
Virus is exposed to 0.7% W/V formaldehyde and the recovery of virus determined by $TCID_{50}$ after 5, 15, 30 and 60 minutes, in order to assess that the test virus has retained reproducible biocide resistance. In addition, the formaldehyde cytotoxicity of neutralised formaldehyde is determined, to measure assay sensitivity.

1Kärber, G.: Beitrag zur Kollektiven Behandlung Pharmakologischer Reihenversuche. Arch. Exp. Path. Pharmak. 162 (1931): 480-487.

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Murine coronavirus (A59) Test Results

EN14476:2013 + A2:2019 Suspension test for the efficacy of Crebisol, Batch 300919, BT-CRB-01 from Crebisol Limited against Murine hepatitis virus (A59) under DIRTY conditions						
Test Results						
Concentration	**1.0% (v/v)**		**2.0% (v/v)**		**5.0% (v/v)**	
Exposure Time	data	$TCID_{50}$/ml	data	$TCID_{50}$/ml	data	$TCID_{50}$/ml
t = 2 mins	2.00	**3.16E+03**	1.00	**3.16E+02**	0.00	**3.16E+01**
Raw Data	660000	**3.16E+03**	600000	**3.16E+02**	000000	**3.16E+01**
log		**3.50**		**2.50**		**1.50**
log difference		**2.00**		**3.00**		**4.00**
Exposure Time	data	$TCID_{50}$/ml	data	$TCID_{50}$/ml	data	$TCID_{50}$/ml
t = 5 mins	2.00	**3.16E+03**	1.00	**3.16E+02**	0.00	**3.16E+01**
Raw Data	660000	**3.16E+03**	600000	**3.16E+02**	000000	**3.16E+01**
log		**3.50**		**2.50**		**1.50**
log difference		**2.00**		**3.00**		**4.00**

EN14476:2013 + A2:2019 Suspension test for the efficacy of Crebisol, Batch 300919, BT-CRB-01 from Crebisol Limited against Murine hepatitis virus (A59) under DIRTY conditions									
Summary Table									
Product:	Interfering substance	Concentration	Level of cytotoxicity	lg $TCID_{50}$					>4 lg reduction after 'X' Min
				0 min	2 min	5 min	15 min	60 min	
Crebisol	3.0g/l BSA + 3.0ml/l erythrocytes	5.0% (v/v)	1.50	1.50	1.50	1.50	n.a.	n.a.	>2 mins
		2.0% (v/v)	1.50	n.a.	2.50	2.50	n.a.	n.a.	>5 mins
		1.0% (v/v)	1.50	n.a.	3.50	3.50	n.a.	n.a.	>5 mins
Crebisol	3.0g/l BSA	5.0% (v/v)	1.50	n.a.	1.50	1.50	n.a.	n.a.	<2 mins
		2.0% (v/v)	1.50	n.a.	2.50	2.50	n.a.	n.a.	>5 mins
		1.0% (v/v)	1.50	n.a.	3.50	3.50	n.a.	n.a.	>5 mins
Virus Control	DIRTY			5.50	n.a.	5.50	5.33	n.a.	n.a.
Virus Control	CLEAN			5.50	n.a.	5.50	5.50	n.a.	n.a.
Formaldehyde	PBS	0.7% (w/v)	3.50	n.a.	3.50	3.50	3.50	3.50	>60 mins

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Murine coronavirus (A59) Control Data

EN14476:2013 + A2:2019 Suspension test for the efficacy of Crebisol, Batch 300919, BT-CRB-01 from Crebisol Limited against Murine hepatitis virus (A59) under DIRTY conditions

Controls

Virus Recovery 0 min		Virus Recovery 5 min		Virus Recovery 60 min		Cytotoxicity		Disinfectant Suppression VS		Disinfectant Suppression VS2	
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
4.00	**3.16E+05**	4.00	**3.16E+05**	3.83	**2.15E+05**	0.00	**3.16E+01**	0.00	**3.16E+01**	3.50	**1.00E+05**
666600	**3.16E+05**	666600	**3.16E+05**	666500	**2.15E+05**	000000	**3.16E+01**	000000	**3.16E+01**	666210	**1.00E+05**
	5.50		**5.50**		**5.33**		**1.50**		**1.50**		**5.00**
									4.00		**0.50**

Formaldehyde reference inactivation controls

Cytotoxicity			0.7% Formaldehyde								
		Exposure time	5 mins		15 mins		30 mins		60 mins		
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	
2.00	**3.16E+03**		2.00	**3.16E+03**	2.00	**3.16E+03**	2.00	**3.16E+03**	2.00	**3.16E+03**	
660000	**3.16E+03**		660000	**3.16E+03**	660000	**3.16E+03**	660000	**3.16E+03**	660000	**3.16E+03**	
	3.50	log		**3.50**		**3.50**		**3.50**		**3.50**	
		log difference		**1.83**		**1.83**		**1.83**		**1.83**	

Interference control	Virus dilution							No column Control	
	-3	-4	-5	-6	-7	-8		5 mins	
PBS Control	1	1	1	0.33	0	0		raw data	$TCID_{50}$/ml
	3.16E+02	3.16E+02	3.16E+02	6.76E+01	3.16E+01	3.16E+01		4.17	**4.64E+05**
	2.50	**2.50**	**2.50**	**1.83**	**1.50**	**1.50**		666610	**4.64E+05**
Raw Data	**6**	**6**	**6**	**2**	**0**	**0**			**5.67**
Product	1	1	1	0.5	0	0			
	3.16E+02	3.16E+02	3.16E+02	1.00E+02	3.16E+01	3.16E+01			
	2.50	**2.50**	**2.50**	**2.00**	**1.50**	**1.50**			
Raw Data	**6**	**6**	**6**	**3**	**0**	**0**		**Stock Virus ($TCID_{50}$)**	
Log Difference	**0.00**	**0.00**	**0.00**	**-0.17**	**0.00**	**0.00**		5.50	
Product Cyt Dilution	-1	-1	-1	-1	-1	-1		**1.00E+07**	
PBS Dilution	Neat	Neat	Neat	Neat	Neat	Neat		6666630000	

SOP 11000
SOP 8003 EN14476 REPORT TEMPLATE V20
Effective Date: 11 March 2020
BT-CRB-01

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BluTest LABORATORIES LTD

Murine coronavirus (A59) Control Data

Parallel Control Test												
Controls						Test Results						
Virus Recovery 0 min		Virus Recovery 5 min		Virus Recovery 60 min		Concentration	1.0% (v/v)		2.0% (v/v)		5.0% (v/v)	
raw data	$TCID_{50}$/ml	raw data	$TCID_{50}$/ml	raw data	$TCID_{50}$/ml	Exposure Time	data	$TCID_{50}$/ml	data	$TCID_{50}$/ml	data	$TCID_{50}$/ml
4.00	**3.16E+05**	4.00	**3.16E+05**	4.00	**3.16E+05**	t = 2 mins	2.00	**3.16E+03**	1.00	**3.16E+02**	0.00	**3.16E+01**
666600	**3.16E+05**	666600	**3.16E+05**	666600	**3.16E+05**	Raw data	660000	**3.16E+03**	600000	**3.16E+02**	000000	**3.16E+01**
	5.50		**5.50**		**5.50**	log		**3.50**		**2.50**		**1.50**
						log difference		**2.00**		**3.00**		**4.00**
						Exposure Time	data	$TCID_{50}$/ml	data	$TCID_{50}$/ml	data	$TCID_{50}$/ml
						t = 5 mins	2.00	**3.16E+03**	1.00	**3.16E+02**	0.00	**3.16E+01**
						Raw data	660000	**3.16E+03**	600000	**3.16E+02**	000000	**3.16E+01**
						log		**3.50**		**2.50**		**1.50**
						log difference		**2.00**		**3.00**		**4.00**

SOP 11000
SOP 8003 EN14476 REPORT TEMPLATE V20
Effective Date: 11 March 2020
BT-CRB-01

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CONCLUSION

Verification of the methodology

A test is only valid if the following criteria are fulfilled:

a) The titre of the test suspension of at least 10^8 TCID50 /ml is sufficiently high to at least enable a titre reduction of 4 lg to verify the method.
b) Detectable titre reduction is at least 4 $\log_{10}$.
c) Difference of the logarithmic titre of the virus control minus the logarithmic titre of the test virus in the reference inactivation test is between:
   - Between 0.5 and 2.5 after 30 min and between 2.0 and 4.5 after 60 min for poliovirus
   - Between 3.0 and 5.0 after 30 min and between 3.5 and 5.5 after 60 min for adenovirus
   - Between 1.0 and 3.0 after 30 min and between 2.0 and 4.0 after 60 min for murine norovirus
   - Between 0.0 and 2.0 after 30 min and between 0.5 and 2.5 after 60 min for parvovirus
   - Between 0.75 and 3.5 after 5 min and between 2.0 and 4.0 after 15 min for Vaccinia virus
d) Cytotoxicity of the product solution does not affect cell morphology and growth or susceptibility for the test virus in the dilutions of the test mixtures which are necessary to demonstrate a 4 $\log_{10}$ reduction of the virus.
e) The interference control result does not show a difference of < 1.0 $\log_{10}$ of virus titre for test product treated cells in comparison to the non-treated cells.
f) Neutralisation validation. This is called the disinfectant suppression test in this protocol. The disinfectant was neutralised by column chromatography through an Illustra Microspin S-400 HR column to achieve the best possible neutralisation available for this test. The difference for virus is greater than 0.5 $\log_{10}$ indicating rapid irreversible virucidal activity of the disinfectant by dilution at a concentration of 5.0% v/v for VS1. This neutralisation validation has been verified by VS2, which shows the product has been successfully neutralised.

According to EN 14476:2013 + A2:2019, **Crebisol POSSESSES VIRUCIDAL** activity at a concentration of **5.0% v/v** as tested after **2 MINUTES** at **20°C** under (**DIRTY** conditions (3.0 g/l bovine albumin + 3.0 ml/l erythrocytes) against *Murine coronavirus* (A59) ATCC VR-764/ NCTC clone 1469 cells, a surrogate for SARS-CoV-1,2 and MERS CoV.

Murine coronavirus (also known as murine hepatitis virus) as a surrogate for SARS-CoV-2/Covid-19 is the type species of the Betacoronavirus genus that includes SARS-CoV-1&2; MERS-CoV.
Genus Betacoronavirus; Type species: Murine coronavirus
Species: Betacoronavirus 1, Human coronavirus HKU1, Murine coronavirus, Pipistrellus bat coronavirus HKU5, Rousettus bat coronavirus HKU9, Severe acute respiratory syndrome-related coronavirus 1, Severe acute respiratory syndrome-related coronavirus-2, Tylonycteris bat coronavirus HKU4, Middle East respiratory syndrome-related coronavirus, Human coronavirus OC43, Hedgehog coronavirus 1 (EriCoV)

This genus includes (source) bat coronaviruses, pre-existing identified human coronaviruses not associated with severe acute respiratory distress, SARS-CoV 1,2 and MERS-CoV.

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Authorised signatory

Dr Chris Woodall, Director
BluTest Laboratories Ltd
Glasgow, UK
Date: 09 JUNE 2020

DISCLAIMER

The results in this test report only pertain to the sample supplied.
BluTest (BT) has performed the testing detailed in this report using reasonable skill and care and has used reasonable endeavours to carry out the testing in accordance with an EN 14476 protocol. All forecasts, recommendations and results contained in this report are submitted in good faith. However, other than as expressly set out in this report, no warranty is given (i) in relation to the testing or the use(s) to which any results or deliverables produced in the course of the testing are or may be put by the Client or their fitness or suitability for any particular purpose or under any special conditions notwithstanding that any such purpose or conditions may have been made known to BT or (ii) that the intended results or deliverables from the testing can be achieved or (iii) that the Client can freely make use of the results or the deliverables without infringing any third party intellectual property rights and the Client will be deemed to have satisfied itself in this regard. BT shall have no liability (which is hereby excluded to the fullest extent permissible by law) in respect of any loss, liability or damage, including without limitation any indirect and/or consequential loss such as loss of profit or loss of business, market or goodwill, that the Client may suffer directly or indirectly as a result of or in connection with: (i) the performance of the testing; (ii) the use of any materials, samples or other information provided by the Client for use in the testing; and (iii) the Client's reliance upon or use of any results or deliverables provided as part of the testing.

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9 Airline Approvals

Airline Approvals

Safeguarding your living & working environment!

SANITISE Ireland
ENSURING A SANITISED ENVIRONMENT

CREBISOL

AMS 1453A (2015-07) Disinfectant Cleaner for Aircraft Interior – General Purpose Liquid.

Crebisol has undergone testing to AMS 1453A (2015-07) Standard as a Disinfectant Cleaner for Aircraft Interior.

This specification covers a general purpose disinfectant/cleaner in the form of a concentrated liquid to be used diluted in accordance with label instructions.

Crebisol disinfectant/cleaner can be used typically for disinfection of aircraft galleys, passenger service trays and drop-down table surfaces. Significantly it can be used on surfaces which will come into direct contact with food. Crebisol may also be used for sanitizing hard surfaces in aircraft lavatories, sinks and surrounds. This multiple purpose product is also uniquely certified to address key infections associated with high density environments.

Crebisol as of 3rd May 2016 conforms with the following ASTM requirements:

ASTM F1111 Standard Test Method for Corrosion of Low-Embrittling Cadmium Plate by Aircraft Maintenance Chemicals

This test method is intended as a means of determining the corrosive effects of aircraft maintenance chemicals on low-embrittling cadmium plating used on aircraft high-strength steel, under conditions of total immersion by quantitative measurements of weight change.

ASTM F 519 Standard Test Method for Mechanical Hydrogen Embrittlement Evaluation of Plating/Coating Processes and Service Environments

Plating/coating Processes—This test method provides a means by which to detect possible hydrogen embrittlement of steel parts during manufacture by verifying strict controls during production operations such as surface preparation, pretreatments, and plating/coating. It is also intended to be used as a qualification test for new plating/coating processes and as a periodic inspection audit for the control of a plating/coating process.

Service Environment—This test method provides a means by which to detect possible hydrogen embrittlement of steel parts (plated/coated or bare) due to contact with chemicals during manufacturing, overhaul and service life.

ASTM D56 Standard Test Method for Flash Point by Tag Closed Cup Tester

Flash point measures the tendency of the specimen to form a flammable mixture with air under controlled laboratory conditions. It is only one of a number of properties that shall be considered in assessing the overall flammability hazard of a material.

Flash point is used in shipping and safety regulations to define flammable and combustible materials. One should consult the particular regulation involved for precise definitions of these classes.

Flash point can indicate the possible presence of highly volatile and flammable materials in a relatively nonvolatile or nonflammable material. For example, an abnormally low flash point on a sample of kerosene can indicate gasoline contamination.

ASTM F484 -Standard Test Method for Stress Crazing of Acrylic Plastics in Contact with Liquid or Semi-Liquid Compounds

This test method covers the procedure for determining the crazing effect caused by a liquid or semi-liquid on transparent three types of acrylic plastic materials under bending stress. Cast acrylic materials from Types A and B should be annealed according to specifications while the stretched acrylic materials of Type C should not be annealed. All test specimens should be machined from polished acrylic plastic sheets and should have smooth machined surfaces.

ASTM F502 Standard Test Method for Effects of Cleaning and Chemical Maintenance Materials on Painted Aircraft Surfaces

This test method covers determination of the effects of cleaning solutions and chemical maintenance materials on painted aircraft surfaces. Materials used for testing shall be drawing pencils, fine sand paper, abrasive mats, acetone, MIL-PRF-85285 coating, MIL-PRF-23377 primer coating, chemical conversion materials, and distilled or deionized water. Plate and sheet specimens of aluminum alloy shall be examined under concentrated and diluted test solutions. Pencils preparation, panels preparations, testing, and hardness determination shall be done according to the indicated procedure.

ASTM F485 Standard Practice for Effects of Cleaners on Unpainted Aircraft Surfaces

This practice is used to ensure that candidate aircraft surface cleaners do not leave a residue which, on drying, would leave a permanent stain requiring polishing to remove. This practice describes the procedure used to determine the effect of cleaners on unpainted aircraft surfaces. Visual observation is used for determining streaking or permanent stains which require polishing to remove.

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c/o Francis J. Woods & Company
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Balbriggan, County Dublin
Ireland

Date: 31-May-2016
SMI/REF: 1603-736

Product: **CreBiSol (50:1 dilution)** *(received 03-May-2016)*

Dilution: As recieved

AMS 1453A (2015-07)
DISINFECTANT CLEANER FOR AIRCRAFT INTERIOR
General Purpose Liquid

3.2.1.1	Sandwich Corrosion	Does not conform
3.2.1.2	Total Immersion Corrosion	Does not conform
3.2.1.3	Low-Embrittling Cadmium Plate	Conforms
3.2.2	Hydrogen Embrittlement	Conforms
3.2.3	Flash Point	Conforms
3.2.4	Effect on Plastics	Conforms
3.2.5	Effect on Painted Surfaces	Conforms
3.2.6	Effect on Unpainted Surfaces	Conforms
3.2.7	Long Term Storage Stability	Not performed
~~3.2.8~~	~~Performance~~	Excluded
3.2.9	Accelerated Storage Stability	Does not conform

Respectfully submitted,

Patricia D. Viani, SMI Inc.

Client: Biocidal Solutions Patent Holdings Ltd
Product: **CreBiSol (50:1 dilution)**
Dilution: As received
AMS 1453A

Date: 31-May-2016
SMI/REF: 1603-736

3.2 Properties: Disinfectant shall conform to the following requirements; tests shall be performed in accordance with specified test methods on the disinfectant supplied in concentrated form and at use dilution recommended by the manufacturer as hereinafter specified. Diluent shall be ASTM D 1193, Type IV, water.

3.2.1 Corrosion of Metal Surfaces

3.2.1.1 Sandwich Corrosion: Specimens, after test, shall not show corrosion worse than control panels, using ASTM D 1193, Type IV, water, determined in accordance with ASTM F 1110.

	2024-T3 Bare Anodized	2024-T3 Alclad	7075-T6 Bare Anodized	7075-T6 Alclad
PRODUCT	**1**	**2/3***	**1**	**2/3***
CONTROL	1	1	1	1

***"2/3" based on visible discoloration and/or corrosion between 10 to 25% of area.**

Result *Does not conform

3.2.1.2 Total Immersion Corrosion: The product shall neither show evidence of corrosion nor cause a weight change of any test panel greater than shown in Table 1, determined in accordance with ASTM F 483.

ALLOY	Weight Change (mg/cm^2/24hrs)	
	ALLOWABLE	PRODUCT
AMS 4037 Aluminum anodized per AMS 2470	0.3	**+ 0.06*[1]**
AMS 4049 Clad Aluminum	0.3	**0.21*[1]**
AMS 4911 Titanium	0.1	**0.01**
AMS 5045 Steel	0.8	**0.04*[2]**

***[1] Visible corrosion/oxidation; non-conformance based on appearance.**
***[2] Visible corrosion/rust; non-conformance based on appearance.**

Result *Does not conform

Client: Biocidal Solutions Patent Holdings Ltd
Product: **CreBiSol (50:1 dilution)**
Dilution: As received
AMS 1453A

Date: 31-May-2016
SMI/REF: 1603-736

3.2.1.3 Low-Embrittling Cadmium plate: Test panels coated with low-embrittling cadmium plate shall not show a weight change greater than 0.3 mg/cm^2/24hrs per 24 hours, determined in accordance with ASTM F 1111.

PRODUCT: 0.15 mg/cm^2/24 hours

Result Conforms

3.2.2 Hydrogen Embrittlement: The product shall be non-embrittling, determined in accordance with ASTM F 519 utilizing Type 1a, 1c, or 2a specimens, cadmium plated in accordance with MIL-STD-870, Class 1 Type I. Type 1a and Type 1c specimens shall be loaded to 45% of the predetermined notch fracture strength, and Type 2a specimens loaded to 80% of the yield strength. The entire 2a stressed specimen, or just the notched area of the 1a and 1c stresses specimen, shall be immersed continuously in the solution under test for 150 hours at a temperature between 68 to 86°F (20 to 30°C)

Specimens: Type 1c, cadmium plated per MIL-STD-870 Class 1 Type I
Test temperature: 68°F (20°C)

PRODUCT: No failures occurred within 150 hours.

Result Conforms

3.2.3 Flash Point: Shall not be lower than 60°C (140°F), determined in accordance with ASTM D 56.

PRODUCT: No Flash point observed to 141°F.

Result Conforms

3.2.4 Effect on Plastic: The product shall not craze, stain, or discolor MIL-P-25690 stretched acrylic plastic, determined in accordance with ASTM F 484.

PRODUCT: No cracking or crazing evident.

Result Conforms

3.2.4.1 Product shall not craze, stain, or discolor MIL-P-83310 polycarbonate plastic determined in accordance with procedures in ASTM F 484 except the specimens shall be stressed for 30 minutes ± 1 to an outer fiber stress level of 13.8 MPa (2000 psi).

PRODUCT: No cracking or crazing evident.

Result Conforms

Client: Biocidal Solutions Patent Holdings Ltd Date: 31-May-2016
Product: **CreBiSol (50:1 dilution)** SMI/REF: 1603-736
Dilution: As received
AMS 1453A Page 5 of 5

3.2.9 Accelerated Storage Stability:continued

3.2.9.2 Cold Temperature: One 6-oz (175-mL) sample of the product shall be placed in 8-oz (250-mL) clear glass bottles and sealed and, from that time until test is completed, shall be handled so as to minimize movement of the sample. The jar shall be exposed for 120 hours ± 1 at 14°F ± 5 (-10°C ± 3). At the end of the 120-hour period, remove the sample to a room-temperature environment, and allow to thaw completely and examine for conformance to 3.2.9.

Evidence of precipitation.

Result Does not conform

Client: Biocidal Solutions Patent Holdings Ltd
Product: **CreBiSol (50:1 dilution)**
Dilution: As received
AMS 1453A

Date: 31-May-2016
SMI/REF: 1603-736

3.2.5 Effect on Painted Surfaces: The product shall neither decrease the hardness of the paint film by more than two pencil hardness levels, nor shall it product any streaking,discoloration, or blistering of the paint film, determined in accordance with ASTM F 502.

***PRODUCT:* No decrease in hardness**
No streaking, discoloration, or blistering

Result Conforms

3.2.6 Effect on Unpainted Surfaces: The product tested in accordance with ASTM F 485, shall neither produce streaking nor leave any stains which would require polishing to remove.

***PRODUCT:* AMS 4911 - No streaking nor stains**
AMS 4049 - No streaking nor stains

Result Conforms

3.2.7 Long Term Storage Stability: The product, tested in accordance with ASTM F 1104, shall be restorable to its original appearance by moderate shaking, and shall meet all technical requirements after the storage stability period of 1 year.

Result Not performed

3.2.8 ~~Performance: The product, used in accordance with label instructions, shall remove normally accumulated soils from the surfaces being cleaned and shall leave those surfaces in a disinfected or sanitized condition without any visible residue.~~

Result ~~Excluded~~

3.2.9 Accelerated Storage Stability: Disinfectant shall remain homogeneous and shall show no evidence of layering, separation, settling or crystallization, determined in accordance with 3.2.9.1 and 3.2.9.2.

3.2.9.1 Eleveated Temperature: One 6-oz (175-mL) sample of the product shall be placed in 8-oz (250-mL) clear glass bottles and sealed and, from that time until test is completed, shall be handled so as to minimize movement of the sample. The jar shall be exposed for 120 hours ± 1 at 122°F ± 5 (50°C ± 3). At the end of the 120-hour period, remove the sample to a room-temperature environment, and allow to cool completely and examine for conformance to 3.2.9.

Evidence of precipitation.

Result Does not conform

10 Method Statement

Crebisol Method Statement

Safeguarding your living & working environment!

SANITISE Ireland
ENSURING A SANITISED ENVIRONMENT

CLEANING & SANITISING MULTIPLE SURFACES CreBiSol

READ BEFORE STARTING

Goggles & Gloves must be worn when handling Concentrate

Gloves must be worn when using diluted product

Always wear correct PPE*

Goggles & Gloves


Micro Fibre

Use your cleaning tools

crebisol
cleans • disinfects • protects

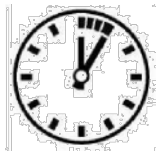
WWW.CreBiSol.COM

1. Fill Bucket or Trigger Spray from Dispenser Unit

2. Using Mop & Bucket apply to floor surface & leave to dry.

3. Put in place "Wet Floor" Hazard Signs

4. Leave to Dry



4. Using Trigger Spray for hard surfaces spray on surface.

5. Wipe over surface with slightly damp microfiber cloth.

Damp

6. Mirrors & Glass – buff vigorously after 1 Min. with dry microfiber cloth

Dry

7. For Soft Furnishings test small inconspicuous area first & then spray onto clean cloth and wipe over surface.

Suitable for all surfaces: toilets, tiles, walls, seating, paintwork, door handles, table tops, kitchen fittings, light fittings, aluminium, windows, stainless steel, upholstery and soft furnishings, glass & wood

***PPE as risk assessment recommendation**

SANITISE Ireland

FOR FURTHER INFORMATION CONTACT: **SANITISE IRELAND**

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w. **www.sanitiseireland.ie**

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LLOYD CREAGH - 086 881 5114

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ENSURING A **SANITISED ENVIRONMENT**