Chlor-Dis Portfolio

PVA HYGIENE LTD
PROFESSIONAL, VIABLE ALTERNATIVES

PVA Hygiene provides an innovative and sustainable method of cleaning. As the UK's leading manufacturer of water-soluble cleaning products, we cover all areas of commercial cleaning. Over 24 years, we have developed a system using pre-dosed sachets that is straightforward to implement and balances environment diligence with commercial demands. Based in the South West of England, we distribute globally.

This portfolio contains documents relating to PVA Hygiene's CHLOR-DIS.

This unique formulation is contained within a PVOH film that dissolves at the point of use. The sachets are dry, compact and light, they reduce storage space and transportation costs, and heavily reduce the environmental implications often associated with delivering cleaning supplies. The sachets are packed in planet friendly packaging, that can either be composted or recycled, helping you to eliminate single-use plastic from your current cleaning procedure.

CONTENTS:

QMS ISO 9001 : 2015 REGISTERED QUALITY MANAGEMENT
SOMERSET BUSINESS AWARDS 2023 WINNER
CHSA Accredited Manufacturer Certification Mark
Time is Precious In Memory of Ben Halford www.timeisprecious.org
MADE IN BRITAIN
QMS ISO 14001 : 2015 REGISTERED ENVIRONMENTAL MANAGEMENT

PRODUCT DESCRIPTION

Chlor-Dis (BL001) is a Chlorine (Bleach) based disinfectant in powder form. The product is designed for disinfection of surfaces, utensils and cloths. Chlor-Dis is safe for use on common materials of construction such as Stainless Steel and Plastics, though care should be taken on soft metals such as Aluminium, Zinc, Copper and its alloys. On fabrics, dye fastness to bleaching should be checked. This product is not suitable for use on Mild Steel.

It is essential that Chlor-Dis is not mixed with acidic products such as Toilet Cleaners and Descalers, as this could result in the evolution of Chlorine gas.

When used as directed this product conforms to EN13697, EN1276, and EN14476 with a contact time of one minute.

Sachets are supplied in the following Pack Sizes:-

Pack Size	Order Code	Outer Packaging
20 * 5g	DB7 : 20	Pouch
20 * 10g	DB8 : 20	Pouch
20 * 10g	DB9 : 20	Pouch

- Supplied in a convenient water soluble PVA-OH sachet within a compostable container.
- Fast Acting Broad Spectrum Anti-Microbial Activity.
- Phosphate Free.
- QAC Free.

Appearance	White Powder
Odour	Faint Bleach like smell
Foam	Low
pH of use solution	5 - 8
Storage Temperature Range	0°C to +40°C
Shelf Life of Sachet	Minimum of 2 years under normal conditions of dry storage.

INSTRUCTIONS FOR USE

To produce an anti-bacterial spray of approximately 660ppm Av Cl_2, place a single 5g sachet in a 750ml trigger spray, fill with clean water and shake to dissolve *(tepid but not hot water will aid dissolution),* allow the trigger bottle to stand for around 15 minutes to ensure full dissolution. To produce a disinfectant with anti-bacterial, anti-yeast and anti-viral properties of approximately 2600ppm Av Cl_2, dissolve 2* 10g sachets in 750ml of clean water.

Remove gross debris from surfaces and clean with a suitable PVA Hygiene product such as Multi-Purpose Cleaner or Neutral Multi-Purpose Hard Surface Detergent. Apply the disinfectant as a fine spray over the surface and allow to air dry for at least one minute. After this the surface can be allowed to continue drying or be wiped over with a clean cloth.

For Antibacterial soak applications use at least one 10g sachet for every 2ltr of solution.

Pouring 100 - 200ml into sink traps at the end of a day will aid the prevention of offensive odours.

Once made, trigger spray solutions are expected to have a shelf life of at least a week.

Note:- Hypochlorous solutions will naturally decay with time, it is essential that fresh solutions are made at least weekly.

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EFFICACY DETAILS

Test	Compliance Conditions		Organism Type/Compliance
	Time / Minutes	Minimum Concentration	
EN1276 (note for surfaces, 13697 takes precedence over 1276).	1	1000ppm	Pseudomonas aeruginosa. Escherichia coli. Enterococcus hirae. Staphylococcus aureus.
EN13697 *(Bacteria)*	1	400ppm *1 * 5g sachet in 750ml when fresh is ~666 ppm Av Cl_2*	Anti-bacterial surface claim supported by standard organisms of:- Pseudomonas aeruginosa. Escherichia coli. Enterococcus hirae. Staphylococcus aureus.
EN13697 *(Yeasts)*	1	1600ppm *2 * 10g sachet in 750ml when fresh is ~2600 ppm Av Cl_2*	Anti-yeast surface claim supported by standard organism of:- Candida albicans.
EN14476 *(Enveloped Viruses)*	1	2400ppm 2* 10g sachet in 750ml when fresh is ~ 2600 *ppm Av Cl_2*	Anti-viral surface claim (enveloped) supported by standard organism of:- Vaccinia VR-1508 modified Vaccinia Ankara.

PVA Hygiene, Unit 6, Havyat Road Business Park, Havyat Road, Bristol, BS40 5PA.
Tel: +44 (0) 1934 862859 Email: sales@pva-hygiene.co.uk

Emergency Details

For accident, emergency and health & safety information refer to the Safety Data Sheet for this product.

This product is registered with the UK National Poisons Information Service.

Office Hours Emergency Number +44 (0) 1934 862859

Outside Office Hours: - +44 (0)7967 149256 (This is for health, safety and environmental emergencies only, it is not for general enquires or ordering).

Disclaimer

Whilst every effort is made to ensure that the information given in this product information sheet is accurate it is given without guarantee, since the conditions of use are beyond our control.

IDENTIFICATION OF THE MATERIAL	
Product Name	**Chlor-Dis use solution**
Main Use	Chlorine Based Disinfectant
Uses Advised Against	Not for Direct Oral Consumption Keep Out of Reach of Children Do Not Mix with other Chemicals/Detergents. Do not mix with acids: This will produce toxic Chlorine gas.
Manufacturer	PVA Hygiene, Unit 6 Havyat Business Park Havyat Road, Bristol, BS40 5PA
Telephone	+44 (0) 1934 862859

PHYSICAL AND CHEMICAL PROPERTIES	
Appearance	Clear Liquid
Colour	Colourless
pH	5 – 8

CLASSIFICATION, PPE, FIRST AID AND DISPOSAL	
Health	In use solutions of this product have no Health Classifications
Physical	In use solutions of this product have no Physical Classifications
Environmental	In use solutions of this product have no Environmental Classifications
PPE	No PPE is mandated for this product at use strength. However, we suggest gloves for general hygiene, also eye protection if a risk assessment indicates splashing to eyes is possible.
First Aid	**EYES:-** May cause reddening, discomfort and blurred vision. Rinse with Plenty of Water. **SKIN:-** Repeated extended contact may result in skin dryness. Use a suitable re-moisturising cream and get medical attention if symptoms persist. **INHALATION:-** Unlikely, but mixing with Acids may produce Chlorine gas leading to breathing difficulties. **INGESTION:-** Mild irritation to mouth and GI Tract rinse mouth thoroughly. If concerned seek medical advice Show the label or Safety Data sheet to the Physician.
Disposal	Solutions can be disposed to normal sewers and septic tanks.

Test Report: EN 1276:2019

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)

Identification of the test laboratory: Abbott Analytical Ltd
Unit 2, Hickmans Road, Birkenhead, CH41 1JH, Great Britain

Identification of the client: Quill International Chemicals Ltd
Castle Lane, Melbourne, Derby, DE73 8JB, Great Britain

Identification of the sample: 22C/058

Name of the product:	Lincare Super BL0001
Batch number/reference and expiry date (if available):	N/A
Date of delivery:	11 March 2022
Storage conditions:	Room temperature in darkness
Product diluent recommended by the manufacturer for use:	Not disclosed
Active substance(s) and their concentrations (s) (optional):	Not disclosed
Appearance of the product:	Coarse white powder

Notes:

1) The test results in this report relate only to the sample(s) tested.
2) 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 Ltd.

Test method and its validation:

Method:	Dilution-neutralisation
Neutraliser:	100.0 g/l Polysorbate 80 + 30.0 g/l Lecithin + 30.0 g/l Tryptone Soya Broth + 5.0 g/l Sodium thiosulphate + 1.0 g/l L-histidine (Neutraliser B)
Neutraliser validation:	Validated in accordance with EN 1276:2019 (5.5.2)

Experimental conditions:

Period of analysis:	29 March 2022 to 31 March 2022
Product test concentration(s):	20 g/l, 10 g/l w/v
Diluent used for product test solution(s):	Hard water
Contact time(s):	1 min ± 5 s
Test temperature(s):	20°C ± 1°C
Interfering substance:	3.0 g/l bovine albumin (dirty conditions)
Temperature of incubation:	36°C ± 1°C
Identification of the bacterial strain(s) used:	*Pseudomonas aeruginosa* (DSM 939) *Escherichia coli* (NCIMB 8879) *Staphylococcus aureus* (NCTC 10788) *Enterococcus hirae* (DSM 3320)

Deviations: None

Remarks:

1) All test conditions are as requested by the client, irrespective of whether these are in accordance with EN 1276:2019 (5.4.2) or EN 1276:2019 (5.5.1.1).

Requirements:

The product shall demonstrate at least a 5 decimal log (lg) reduction against every test organism.

Conclusion:

According to EN 1276:2019, this sample of Lincare Super BL0001 possesses bactericidal activity against all of the referenced strains of *Pseudomonas aeruginosa*, *Escherichia coli*, *Staphylococcus aureus* and *Enterococcus hirae*, when tested at a concentration of 10 g/l with a contact time of 1 minute at 20°C under dirty conditions.

Approved by:

Signed: 

Name: Tony Watson

Position: General Manager

Date: 05 April 2022

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Birkenhead, CH41 1JH, United Kingdom

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Results: EN 1276:2019

RST 002 (Issue 5)

Test organism:	*Pseudomonas aeruginosa*		(DSM 939)
Date of test:	29 March 2022	Test temperature:	20°C ± 1°C
Interfering substance:	3.0 g/l bovine albumin		
Dilution-neutralisation method:	Pour plate	Number of plates:	1 / ml
Neutraliser:	B	Incubation temperature:	36°C ± 1°C

Validation and controls:

Validation suspension (Nv_0)			Experimental conditions control (A)			Neutraliser or filtration control (B)			Method validation (C) Product conc.: *20 g/l*		
*Vc*1	*70*	$\overline{n}$ =	*Vc*1	*84*	$\overline{n}$ =	*Vc*1	*86*	$\overline{n}$ =	*Vc*1	*74*	$\overline{n}$ =
*Vc*2	*65*	67.5	*Vc*2	*76*	80	*Vc*2	*62*	74	*Vc*2	*86*	80
$30 \le \overline{n}$ of $Nv_0 \le 160$?			$\overline{n}$ of $A \ge 0.5 \times \overline{n}$ of Nv_0 ?			$\overline{n}$ of $B \ge 0.5 \times \overline{n}$ of Nv_0 ?			$\overline{n}$ of $C \ge 0.5 \times \overline{n}$ of Nv_0 ?		
☒ yes ☐ no			☒ yes ☐ no			☒ yes ☐ no			☒ yes ☐ no		

Test suspension (N and N_0):

N	*Vc*1	*Vc*2			
10^{-6}	*272*	*256*	$\overline{n}$ wm = 2.70×10^8 ;	lg N =	8.43
10^{-7}	*39*	*28*	$N_0 = N / 10$;	lg N_0 =	7.43
			$7.17 \le \lg N_0 \le 7.70$?	☒ yes	☐ no

Test:

Conc. of the product	Contact time	*Vc*1	*Vc*2	*Na* ($\overline{n} \times 10$)	lg *Na*	lg *R* (lg N_0 - lg *Na*)
20 g/l	*1 min*	*0*	*0*	<140	<2.15	>5.28
10 g/l	*1 min*	*0*	*0*	<140	<2.15	>5.28

Results: EN 1276:2019

RST 002 (Issue 5)

Test organism:	*Escherichia coli*		(NCIMB 8879)
Date of test:	29 March 2022	Test temperature:	20°C ± 1°C
Interfering substance:	3.0 g/l bovine albumin		
Dilution-neutralisation method:	Pour plate	Number of plates:	1 / ml
Neutraliser:	B	Incubation temperature:	36°C ± 1°C

Validation and controls:

Validation suspension (Nv_0)			Experimental conditions control (A)			Neutraliser or filtration control (B)			Method validation (C) Product conc.: *20 g/l*		
*Vc*1	*36*	$\overline{n}$ =	*Vc*1	*84*	$\overline{n}$ =	*Vc*1	*49*	$\overline{n}$ =	*Vc*1	*68*	$\overline{n}$ =
*Vc*2	*43*	39.5	*Vc*2	*74*	79	*Vc*2	*42*	45.5	*Vc*2	*64*	66
$30 \leq \overline{n}$ of $Nv_0 \leq 160$?			$\overline{n}$ of $A \geq 0.5 \times \overline{n}$ of Nv_0 ?			$\overline{n}$ of $B \geq 0.5 \times \overline{n}$ of Nv_0 ?			$\overline{n}$ of $C \geq 0.5 \times \overline{n}$ of Nv_0 ?		
☒ yes ☐ no			☒ yes ☐ no			☒ yes ☐ no			☒ yes ☐ no		

Test suspension (N and N_0):

N	*Vc*1	*Vc*2			
10^{-6}	*256*	*296*	$\overline{n}$ wm = 2.79×10^{8} ;	lg N =	8.45
10^{-7}	*34*	*27*	$N_0 = N / 10$;	lg N_0 =	7.45
			$7.17 \leq \lg N_0 \leq 7.70$?	☒ yes	☐ no

Test:

Conc. of the product	Contact time	*Vc*1	*Vc*2	*Na* ($\overline{n} \times 10$)	lg *Na*	lg *R* (lg N_0 - lg *Na*)
20 g/l	*1 min*	*0*	*0*	<140	<2.15	>5.30
10 g/l	*1 min*	*0*	*0*	<140	<2.15	>5.30

Results: EN 1276:2019

RST 002 (Issue 5)

Test organism:	*Staphylococcus aureus*		(NCTC 10788)
Date of test:	29 March 2022	Test temperature:	20°C ± 1°C
Interfering substance:	3.0 g/l bovine albumin		
Dilution-neutralisation method:	Pour plate	Number of plates:	1 / ml
Neutraliser:	B	Incubation temperature:	36°C ± 1°C

Validation and controls:

Validation suspension (Nv_0)			Experimental conditions control (A)			Neutraliser or filtration control (B)			Method validation (C) Product conc.: *20 g/l*		
*Vc*1	*40*	$\overline{n}$ =	*Vc*1	*64*	$\overline{n}$ =	*Vc*1	*56*	$\overline{n}$ =	*Vc*1	*60*	$\overline{n}$ =
*Vc*2	*44*	42	*Vc*2	*74*	69	*Vc*2	*59*	57.5	*Vc*2	*47*	53.5
$30 \leq \overline{n}$ of $Nv_0 \leq 160$?			$\overline{n}$ of $A \geq 0.5 \times \overline{n}$ of Nv_0 ?			$\overline{n}$ of $B \geq 0.5 \times \overline{n}$ of Nv_0 ?			$\overline{n}$ of $C \geq 0.5 \times \overline{n}$ of Nv_0 ?		
☒ yes ☐ no			☒ yes ☐ no			☒ yes ☐ no			☒ yes ☐ no		

Test suspension (N and N_0):

N	*Vc*1	*Vc*2			
10^{-6}	*296*	*252*	$\overline{n}$ wm = 2.77×10^{8} ;	lg N =	8.44
10^{-7}	*30*	*32*	$N_0 = N / 10$;	lg N_0 =	7.44
			$7.17 \leq \lg N_0 \leq 7.70$?	☒ yes	☐ no

Test:

Conc. of the product	Contact time	*Vc*1	*Vc*2	*Na* ($\overline{n} \times 10$)	lg *Na*	lg *R* (lg N_0 - lg *Na*)
20 g/l	*1 min*	*0*	*0*	<140	<2.15	>5.29
10 g/l	*1 min*	*0*	*0*	<140	<2.15	>5.29

Results: EN 1276:2019

RST 002 (Issue 5)

Test organism:	*Enterococcus hirae*		(DSM 3320)
Date of test:	29 March 2022	Test temperature:	20°C ± 1°C
Interfering substance:	3.0 g/l bovine albumin		
Dilution-neutralisation method:	Pour plate	Number of plates:	1 / ml
Neutraliser:	B	Incubation temperature:	36°C ± 1°C

Validation and controls:

Validation suspension (Nv_0)			Experimental conditions control (*A*)			Neutraliser or filtration control (*B*)			Method validation (*C*) Product conc.: *20 g/l*		
*Vc*1	*71*	$\overline{n}$ =	*Vc*1	*57*	$\overline{n}$ =	*Vc*1	*60*	$\overline{n}$ =	*Vc*1	*70*	$\overline{n}$ =
*Vc*2	*64*	67.5	*Vc*2	*63*	60	*Vc*2	*50*	55	*Vc*2	*61*	65.5
$30 \leq \overline{n}$ of $Nv_0 \leq 160$?			$\overline{n}$ of $A \geq 0.5 \times \overline{n}$ of Nv_0 ?			$\overline{n}$ of $B \geq 0.5 \times \overline{n}$ of Nv_0 ?			$\overline{n}$ of $C \geq 0.5 \times \overline{n}$ of Nv_0 ?		
☒ yes ☐ no			☒ yes ☐ no			☒ yes ☐ no			☒ yes ☐ no		

Test suspension (*N* and N_0):

N	*Vc*1	*Vc*2			
10^{-6}	*284*	*257*	$\overline{n}$ wm = 2.78×10^{8} ;	lg *N* =	8.44
10^{-7}	*40*	*30*	$N_0 = N / 10$;	lg N_0 =	7.44
			$7.17 \leq \lg N_0 \leq 7.70$?	☒ yes	☐ no

Test:

Conc. of the product	Contact time	*Vc*1	*Vc*2	*Na* ($\overline{n} \times 10$)	lg *Na*	lg *R* (lg N_0 - lg *Na*)
20 g/l	*1 min*	*0*	*0*	<140	<2.15	>5.29
10 g/l	*1 min*	*0*	*0*	<140	<2.15	>5.29

Explanations:

Vc	count per ml (one plate or more)
$\overline{n}$	average of *Vc*1 and *Vc*2 (1 + 2 duplicate)
$\overline{n}$ wm	weighted mean of $\overline{n}$
N	number of cells per ml in the test suspension
N_0	number of cells in the test mixture at the beginning of the contact time ($N_0 = N / 10$)
Na	number of survivors per ml in the test mixture at the end of the contact time (before neutralisation or filtration)
R	reduction ($\lg R = \lg N_0 - \lg Na$)
Nv	number of cells per ml in the validation suspension
Nv_0	number of cells in the validation mixtures at the beginning of the contact time ($Nv_0 = Nv / 10$)
A	number of survivors per ml in the experimental conditions control mixture
B	number of survivors per ml in the neutraliser or filtration control mixture
C	number of survivors per ml in the method validation mixture

All test results have an associated uncertainty of measurement, details of which are available on request.

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Test Report for
BS EN 13697:2015+A1:2019

UKAS TESTING 8615

Chemical disinfectants and antiseptics- Quantitative non-porous surface test for the evaluation of bacterial and/or fungicidal activity of chemical disinfectants used in food, industrial, domestic and institutional areas-Tested method and requirements without mechanical action (phase 2, step 2)

Company Name:	PVA HYGIENE Ltd
Contact Name:	Jim Taylour
Contact Email:	technical@pva-hygiene / jim.m.taylour@gmail.com
Purchase Order No:	1893
Report Date:	23/09/2022
Melbec Ref Number:	46133
No. of Samples:	1
Name of Test Product:	BL001 A
Batch Number:	N/A

Melbec Microbiology Ltd, Imperial House, Kingsway Haslingden BB4 4QJ. Tel: 01706 214492

info@melbecmicrobiology.co.uk, www.melbecmicrobiology.co.uk. Registered in England. Company No 8604622. VAT No 167 85794.

Sample Details:

Manufacture / Supplier:.....	PVA HYGIENE Ltd
Product storage conditions:.....	Ambient
Appearance of the product (as supplied):.....	White powder
Appearance of the product (after dilution):.....	Cloudy liquid
Active substance and concentration:.....	Sodium Troclosene
Product dilutions/concentrations:.....	400 ppm
Diluent used to dilute product:.....	Synthetic Hard Water
Incubation temperature:.....	Bacteria: 35 to 38°C for 48+6h; Yeast: 30+1°C for 48+6h

The test product was in satisfactory condition for testing when received.

Date product received: 13/09/22 Test Date: 15/09/2022 & 16/09/2022

Experimental Conditions:

Interfering substance:	Bovine Albumin (clean 0.3g/l)
Test temperature:	19 to 21 °C
Contact time:	1 minute
Test organisms:	*Pseudomonas aeruginosa ATCC 15442* *Staphylococcus aureus ATCC 6538* *Escherichia coli ATCC 10536* *Enterococcus hirae ATCC 10541* *Candida albicans ATCC 10231*

Deviations:

EN13697 states incubation temperature of 36±1°C or 37±1°C. Melbec Microbiology Ltd method states 35°C - 38°C.
The standard specifies the test product should be tested at three concentrations. The client requested testing at one concentration only and hence the test method is based on the methodology of EN13697.

Requirements of the Standard:
The test product shall demonstrate at least a 4 decimal logarithm (lg) reduction for bacteria and at least a 3 decimal logarithm (lg) reduction for fungi when tested in accordance with this standard under simulated clean or dirty conditions.

Conclusion:

For the product, BL001 A the log reduction requirements as specified in EN13697 (4 log for bacteria and 3 log for fungi within the relevant contact time) were met in clean conditions for the bacteria and hence a bactericidal claim can be made. The requirements were not met for the Candida albicans and hence a yeasticidal or fungicdal claim cannot be made.

Report authorised by:

Name: Dawn Mellors
Position: Technical Director
Date: 23/09/2022

Test Results:

Neutralisation Method Used:

Neutraliser used N1

Viable Counts (Nc, Nd & Nts)

Nc is the mean log number of organisms per test surface of the water control at the end of the contact time
Nd is the mean log number of organisms per test surface of the disinfectant test at the end of the contact time
Nts is the mean number of organisms remaining on the test surface at the end of the test.
NC is the neutraliser control
NT is the method validation

Log Reduction:
Log reduction (R) = LogNc – LogNd

Bacterial or Fungal Test Suspension (N) (cfu/disc)

	Pseudomonas aeruginosa ATCC 15442			*Staphylococcus aureus ATCC 6538*			*Escherichia coli ATCC 10536*			*Enterococcus hirae ATCC 10541*		
Count	-7	>330	>330	-6	>330	>330	-6	>330	>330	-6	>330	>330
	-8	24	24	-7	31	26	-7	46	45	-7	27	21
Weighted Mean	2.40E+09			2.85E+08			4.55E+08			2.40E+08		
Lg	9.38			8.45			8.66			8.38		
6.57<N<7.10	-			6.85			7.06			6.78		
7.57<N<8.10	7.78											

	Candida albicans ATCC 10231		
Count	-6	>330	>330
	-7	31	21
Weighted Mean	2.60E+08		
Lg	8.41		
5.57<N<6.10	-		
6.57<N<7.10	6.81		

Available Chlorine 460 ppm and a pH of 6.93 for the bacterial testing and available Chlorine 420 ppm and a pH of 7.04 for the yeast testing.

Melbec Microbiology Ltd, Imperial House, Kingsway Haslingden BB4 4QJ. Tel: 01706 214492

info@melbecmicrobiology.co.uk, www.melbecmicrobiology.co.uk. Registered in England. Company No 8604622. VAT No 167 85794.

Validation and Controls (Counts on Test Surfaces)

	Pseudomonas aeruginosa ATCC 15442						*Staphylococcus aureus ATCC 6538*					
	NT			NC			NT			NC		
Count	-3	>330	>330	-3	>330	>330	-3	>330	>330	-3	>330	>330
	-4	33	33	-4	34	30	-4	71	64	-4	82	80
Weighted Mean	3.30E+06			3.20E+06			6.75E+06			8.10E+06		
Lg	6.52			6.51			6.83			6.91		
NC - Nc (Not > +/- 0.3lg)	-			0.04			-			0.21		
NT - Nc (Not > +/- 0.3lg)	0.05			-			0.13			-		

	Escherichia coli ATCC 10536						*Enterococcus hirae ATCC 10541*					
	NT			NC			NT			NC		
Count	-3	>330	>330	-3	>330	>330	-3	>330	>330	-3	>330	>330
	-4	57	43	-4	60	45	-4	70	67	-4	63	51
Weighted Mean	5.00E+06			5.25E+06			6.85E+06			5.70E+06		
Lg	6.70			6.72			6.84			6.76		
NC - Nc (Not > +/- 0.3lg)	-			0.13			-			0.22		
NT - Nc (Not > +/- 0.3lg)	0.11			-			0.30			-		

	Candida albicans ATCC 10231					
	NT			NC		
Count	-3	>330	>330	-3	>330	>330
	-4	41	35	-4	30	25
Weighted Mean	3.80E+06			2.75E+06		
Lg	6.58			6.44		
NC - Nc (Not > +/- 0.3lg)	-			-0.02		
NT - Nc (Not > +/- 0.3lg)	0.12			-		

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Determination of Microbicidal Activity (Nd) and Water Control (Nc) (Count/Test Surface)

Pseudomonas aeruginosa ATCC 15442

10^x	Water Control (Nc)		Test Procedure (Nd)	
			400 ppm	
N	-	-	0	0
-1	-	-	-	-
-2	-	-	-	-
-3	>330	>330	-	
-4	30	29	-	
Mean	2.95E+06		-	
Lg	6.47		< 0.10	
Nts (count remaining on disc)	>100		0	
Log Reduction (R)			> 6.37	
			PASS	

Staphylococcus aureus ATCC 6538

10^x	Water Control (Nc)		Test Procedure (Nd)	
			400 ppm	
N	-	-	0	0
-1	-	-	-	-
-2	-	-	-	-
-3	>330	>330	-	
-4	51	48	-	
Mean	4.95E+06		-	
Lg	6.69		< 0.10	
Nts (count remaining on disc)	>100		0	
Log Reduction (R)			> 6.59	
			PASS	

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Escherichia coli ATCC 10536

10^x	Water Control (Nc)		Test Procedure (Nd)	
			400 ppm	
N	-	-	0	0
-1	-	-	-	-
-2	-	-	-	-
-3	>330	>330	-	
-4	41	36	-	
Mean	3.85E+06		-	
Lg	6.59		< 0.10	
Nts (count remaining on disc)	>100		0	
Log Reduction (R)			> 6.49	
			PASS	

Enterococcus hirae ATCC 10541

10^x	Water Control (Nc)		Test Procedure (Nd)	
			400 ppm	
N	-	-	0	0
-1	-	-	-	-
-2	-	-	-	-
-3	>330	>330	-	
-4	38	30	-	
Mean	3.40E+06		-	
Lg	6.53		< 0.10	
Nts (count remaining on disc)	>100		0	
Log Reduction (R)			> 6.43	
			PASS	

Candida albicans ATCC 10231

10^x	Water Control (Nc)		Test Procedure (Nd)	
			400 ppm	
N	-	-	-	-
-1	-	-	>330	>330
-2	-	-	67	66
-3	>330	>330	-	
-4	32	26	-	
Mean	2.90E+06		6.65E+04	
Lg	6.46		4.82	
Nts (count remaining on disc)	100		41	
Log Reduction (R)			1.64	
			FAIL	

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Note:

Viable counts of 1-14 (below the lower limit) are expressed as $<1.4 \times 10^2$ (<2.15 Log)

Viable counts of 0 are expressed as < 0.10 Log

Viable counts >330 for bacteria and yeasts and >165 for mould (higher than the upper limit) are expressed as $> 3.3 \times 10^5$ (>5.52 log) or $> 1.65 \times 10^5$ (>5.22 log)

Nts counts of >100 are expressed as >100

Method Verification:

For Each Test:	
The mean counts used for calculation of N, Nc, Nd, NC and NT are between 14 and 330 for bacteria and yeasts and 14 and 165 for moulds	Yes
6.57≤N≤7.10 for bacteria in dirty conditions and clean conditions (except Pseudomonas aeruginosa) and for Candida albicans in clean conditions	Yes
7.57≤N≤8.10 for Pseudomonas aeruginosa in clean conditions	Yes
5.57≤N≤6.10 for Candida albicans in dirty conditions and Aspergillus brasiliensis in clean or dirty conditions	N/A
NC-Nc is not > ± 0.3 log	Yes
NT-Nc is not > ± 0.3 log	Yes
Nts is <100 cfu for active concentrations	Yes
Weighted mean quotient for N is 5≤N≤15	Yes
Nc is sufficiently high to demonstrate a 4 lg reduction for bacteria and a 3 lg reduction for fungi	Yes

The sample detailed in this report will be retained for 1 month after report date, unless otherwise requested.

The results on this report refer to the items tested only.

Sample description (name of product) and batch references (batch number) stated are as provided by the customer.

****End of test report****

Test Report for
BS EN 13697:2015+A1:2019

UKAS TESTING 8615

Chemical disinfectants and antiseptics- Quantitative non-porous surface test for the evaluation of bacterial and/or fungicidal activity of chemical disinfectants used in food, industrial, domestic and institutional areas-Tested method and requirements without mechanical action (phase 2, step 2)

Company Name:	PVA HYGIENE Ltd
Contact Name:	Jim Taylour
Contact Email:	technical@pva-hygiene / jim.m.taylour@gmail.com
Purchase Order No:	1893
Report Date:	23/09/2022
Melbec Ref Number:	46134
No. of Samples:	1
Name of Test Product:	BL001 B
Batch Number:	N/A

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Sample Details:

Manufacture / Supplier:.....	PVA HYGIENE Ltd
Product storage conditions:.....	Ambient
Appearance of the product (as supplied):.....	White powder
Appearance of the product (after dilution):.....	Cloudy liquid
Active substance and concentration:.....	Sodium Troclosene
Product dilutions/concentrations:.....	800 ppm
Diluent used to dilute product:.....	Synthetic Hard Water
Incubation temperature:.....	Bacteria: 35 to 38°C for 48+6h; Yeast: 30+1°C for 48+6h

The test product was in satisfactory condition for testing when received.

Date product received: 13/09/22 Test Date: 15/09/2022 & 16/09/2022

Experimental Conditions:

Interfering substance:	Bovine Albumin (clean 0.3g/l)
Test temperature:	19 to 21 °C
Contact time:	1 minute
Test organisms:	*Pseudomonas aeruginosa ATCC 15442* *Staphylococcus aureus ATCC 6538* *Escherichia coli ATCC 10536* *Enterococcus hirae ATCC 10541* *Candida albicans ATCC 10231*

Deviations:

EN13697 states incubation temperature of 36±1°C or 37±1°C. Melbec Microbiology Ltd method states 35°C - 38°C.
The standard specifies the test product should be tested at three concentrations. The client requested testing at one concentration only and hence the test method is based on the methodology of EN13697.

Requirements of the Standard:
The test product shall demonstrate at least a 4 decimal logarithm (lg) reduction for bacteria and at least a 3 decimal logarithm (lg) reduction for fungi when tested in accordance with this standard under simulated clean or dirty conditions.

Conclusion:

For the product BL001 B, [Batch code: N/A] the log reduction requirements as specified in EN 13697:2015 (4 lg for bacteria and 3 lg for fungi within the relevant contact time) were met in clean conditions with a contact time of 1 minute for the bacteria and hence a bactericidal claim can be made at this product concentration. The requirements were not met by the Candida albicans and hence a yeasticidal or fungicidal claim cannot be made.

Report authorised by:

Name: Dawn Mellors
Position: Technical Director
Date: 23/09/2022

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Test Results:

Neutralisation Method Used:

Neutraliser used N1

Viable Counts (Nc, Nd & Nts)

Nc is the mean log number of organisms per test surface of the water control at the end of the contact time
Nd is the mean log number of organisms per test surface of the disinfectant test at the end of the contact time
Nts is the mean number of organisms remaining on the test surface at the end of the test.
NC is the neutraliser control
NT is the method validation

Log Reduction:
Log reduction (R) = LogNc – LogNd

Bacterial or Fungal Test Suspension (N) (cfu/disc)

	Pseudomonas aeruginosa ATCC 15442			*Staphylococcus aureus ATCC 6538*			*Escherichia coli ATCC 10536*			*Enterococcus hirae ATCC 10541*		
Count	-7	>330	>330	-6	>330	>330	-6	>330	>330	-6	>330	>330
	-8	24	24	-7	31	26	-7	46	45	-7	27	21
Weighted Mean	2.40E+09			2.85E+08			4.55E+08			2.40E+08		
Lg	9.38			8.45			8.66			8.38		
6.57<N<7.10	-			6.85			7.06			6.78		
7.57<N<8.10	7.78											

	Candida albicans ATCC 10231		
Count	-6	>330	>330
	-7	31	21
Weighted Mean	2.60E+08		
Lg	8.41		
5.57<N<6.10	-		
6.57<N<7.10	6.81		

Available Chlorine 700 ppm and a pH of 6.79 for the bacterial testing and available Chlorine 600 ppm and a pH of 6.92 for the yeast testing.

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Validation and Controls (Counts on Test Surfaces)

	Pseudomonas aeruginosa ATCC 15442						*Staphylococcus aureus ATCC 6538*					
	NT			NC			NT			NC		
Count	-3	>330	>330	-3	>330	>330	-3	>330	>330	-3	>330	>330
	-4	33	33	-4	34	30	-4	67	63	-4	82	80
Weighted Mean	3.30E+06			3.20E+06			6.50E+06			8.10E+06		
Lg	6.52			6.51			6.81			6.91		
NC - Nc (Not > +/- 0.3lg)	-			0.04			-			0.21		
NT - Nc (Not > +/- 0.3lg)	0.05			-			0.12			-		

	Escherichia coli ATCC 10536						*Enterococcus hirae ATCC 10541*					
	NT			NC			NT			NC		
Count	-3	>330	>330	-3	>330	>330	-3	>330	>330	-3	>330	>330
	-4	63	62	-4	60	45	-4	64	46	-4	63	51
Weighted Mean	6.25E+06			5.25E+06			5.50E+06			5.70E+06		
Lg	6.80			6.72			6.74			6.76		
NC - Nc (Not > +/- 0.3lg)	-			0.13			-			0.22		
NT - Nc (Not > +/- 0.3lg)	0.21			-			0.21			-		

	Candida albicans ATCC 10231					
	NT			NC		
Count	-3	>330	>330	-3	>330	>330
	-4	25	21	-4	30	25
Weighted Mean	2.30E+06			2.75E+06		
Lg	6.36			6.44		
NC - Nc (Not > +/- 0.3lg)	-			-0.02		
NT - Nc (Not > +/- 0.3lg)	-0.10			-		

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Determination of Microbicidal Activity (Nd) and Water Control (Nc) (Count/Test Surface)

Pseudomonas aeruginosa ATCC 15442

10^x	Water Control (Nc)		Test Procedure (Nd)	
			800 ppm	
N	-	-	0	0
-1	-	-	-	-
-2	-	-	-	-
-3	>330	>330	-	
-4	30	29	-	
Mean	2.95E+06		-	
Lg	6.47		< 0.10	
Nts (count remaining on disc)	>100		0	
Log Reduction (R)			> 6.37	
			PASS	

Staphylococcus aureus ATCC 6538

10^x	Water Control (Nc)		Test Procedure (Nd)	
			800 ppm	
N	-	-	0	0
-1	-	-	-	-
-2	-	-	-	-
-3	>330	>330	-	
-4	51	48	-	
Mean	4.95E+06		-	
Lg	6.69		< 0.10	
Nts (count remaining on disc)	>100		0	
Log Reduction (R)			> 6.59	
			PASS	

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Escherichia coli ATCC 10536

10^x	Water Control (Nc)		Test Procedure (Nd)	
			800 ppm	
N	-	-	0	0
-1	-	-	-	-
-2	-	-	-	-
-3	>330	>330	-	
-4	41	36	-	
Mean	3.85E+06		-	
Lg	6.59		< 0.10	
Nts (count remaining on disc)	>100		0	
Log Reduction (R)			> 6.49	
			PASS	

Enterococcus hirae ATCC 10541

10^x	Water Control (Nc)		Test Procedure (Nd)	
			800 ppm	
N	-	-	0	0
-1	-	-	-	-
-2	-	-	-	-
-3	>330	>330	-	
-4	38	30	-	
Mean	3.40E+06		-	
Lg	6.53		< 0.10	
Nts (count remaining on disc)	>100		0	
Log Reduction (R)			> 6.43	
			PASS	

Candida albicans ATCC 10231

10^x	Water Control (Nc)		Test Procedure (Nd)	
			800 ppm	
N	-	-	>330	>330
-1	-	-	50	38
-2	-	-	-	-
-3	>330	>330	-	
-4	32	26	-	
Mean	2.90E+06		4.40E+03	
Lg	6.46		3.64	
Nts (count remaining on disc)	100		4	
Log Reduction (R)			2.82	
			FAIL	

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Note:

Viable counts of 1-14 (below the lower limit) are expressed as $<1.4 \times 10^2$ (<2.15 Log)

Viable counts of 0 are expressed as < 0.10 Log

Viable counts >330 for bacteria and yeasts and >165 for mould (higher than the upper limit) are expressed as $> 3.3 \times 10^5$ (>5.52 log) or $> 1.65 \times 10^5$ (>5.22 log)

Nts counts of >100 are expressed as >100

Method Verification:

For Each Test:	
The mean counts used for calculation of N, Nc, Nd, NC and NT are between 14 and 330 for bacteria and yeasts and 14 and 165 for moulds	Yes
6.57≤N≤7.10 for bacteria in dirty conditions and clean conditions (except Pseudomonas aeruginosa) and for Candida albicans in clean conditions	Yes
7.57≤N≤8.10 for Pseudomonas aeruginosa in clean conditions	Yes
5.57≤N≤6.10 for Candida albicans in dirty conditions and Aspergillus brasiliensis in clean or dirty conditions	N/A
NC-Nc is not > ± 0.3 log	Yes
NT-Nc is not > ± 0.3 log	Yes
Nts is <100 cfu for active concentrations	Yes
Weighted mean quotient for N is 5≤N≤15	Yes
Nc is sufficiently high to demonstrate a 4 lg reduction for bacteria and a 3 lg reduction for fungi	Yes

The sample detailed in this report will be retained for 1 month after report date, unless otherwise requested.

The results on this report refer to the items tested only.

Sample description (name of product) and batch references (batch number) stated are as provided by the customer.

****End of test report****

Test Report for
BS EN 13697:2015+A1:2019

UKAS TESTING 8615

Chemical disinfectants and antiseptics- Quantitative non-porous surface test for the evaluation of bacterial and/or fungicidal activity of chemical disinfectants used in food, industrial, domestic and institutional areas-Tested method and requirements without mechanical action (phase 2, step 2)

Company Name:	PVA HYGIENE Ltd
Contact Name:	Jim Taylour
Contact Email:	technical@pva-hygiene / jim.m.taylour@gmail.com
Purchase Order No:	1893
Report Date:	23/09/2022
Melbec Ref Number:	46135
No. of Samples:	1
Name of Test Product:	BL001 C
Batch Number:	N/A

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Sample Details:

Manufacture / Supplier:.....	PVA HYGIENE Ltd
Product storage conditions:.....	Ambient
Appearance of the product (as supplied):.....	White powder
Appearance of the product (after dilution):.....	Cloudy liquid
Active substance and concentration:.....	Sodium Troclosene
Product dilutions/concentrations:.....	1600 ppm
Diluent used to dilute product:.....	Synthetic Hard Water
Incubation temperature:.....	Bacteria: 35 to 38°C for 48+6h; Yeast: 30+1°C for 48+6h

The test product was in satisfactory condition for testing when received.

Date product received: 13/09/22 Test Date: 15/09/2022 & 16/09/2022

Experimental Conditions:

Interfering substance:	Bovine Albumin (clean 0.3g/l)
Test temperature:	19 to 21 °C
Contact time:	1 minute
Test organisms:	*Pseudomonas aeruginosa ATCC 15442* *Staphylococcus aureus ATCC 6538* *Escherichia coli ATCC 10536* *Enterococcus hirae ATCC 10541* *Candida albicans ATCC 10231*

Deviations:

EN13697 states incubation temperature of 36±1°C or 37±1°C. Melbec Microbiology Ltd method states 35°C - 38°C.
The standard specifies the test product should be tested at three concentrations. The client requested testing at one concentration only and hence the test method is based on the methodology of EN13697.

Requirements of the Standard:
The test product shall demonstrate at least a 4 decimal logarithm (lg) reduction for bacteria and at least a 3 decimal logarithm (lg) reduction for fungi when tested in accordance with this standard under simulated clean or dirty conditions.

Conclusion:

For the product BL001 C, [Batch code: N/A] the log reduction requirements as specified in EN 13697:2015 (4 lg for bacteria and 3 lg for fungi within the relevant contact time) were met in clean conditions with a contact time of 1 minute for the organsims tested and a target product concentration of 1600ppm. A bactericidal and yeasticidal claim can be made for the product.

Report authorised by:

Name: Dawn Mellors
Position: Technical Director
Date: 23/09/2022

Test Results:

Neutralisation Method Used:

Neutraliser used N1

Viable Counts (Nc, Nd & Nts)

Nc is the mean log number of organisms per test surface of the water control at the end of the contact time
Nd is the mean log number of organisms per test surface of the disinfectant test at the end of the contact time
Nts is the mean number of organisms remaining on the test surface at the end of the test.
NC is the neutraliser control
NT is the method validation

Log Reduction:
Log reduction (R) = LogNc – LogNd

Bacterial or Fungal Test Suspension (N) (cfu/disc)

	Pseudomonas aeruginosa ATCC 15442			*Staphylococcus aureus ATCC 6538*			*Escherichia coli ATCC 10536*			*Enterococcus hirae ATCC 10541*		
Count	-7	>330	>330	-6	>330	>330	-6	>330	>330	-6	>330	>330
	-8	24	24	-7	31	26	-7	46	45	-7	27	21
Weighted Mean	2.40E+09			2.85E+08			4.55E+08			2.40E+08		
Lg	9.38			8.45			8.66			8.38		
6.57<N<7.10	-			6.85			7.06			6.78		
7.57<N<8.10	7.78											

	Candida albicans ATCC 10231		
Count	-6	>330	>330
	-7	31	21
Weighted Mean	2.60E+08		
Lg	8.41		
5.57<N<6.10	-		
6.57<N<7.10	6.81		

Available Chlorine 1020 ppm and a pH of 6.60 for the bacterial testing and available Chlorine 1100 ppm and a pH of 6.56 for the yeast testing.

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Validation and Controls (Counts on Test Surfaces)

	Pseudomonas aeruginosa ATCC 15442						*Staphylococcus aureus ATCC 6538*					
	NT			NC			NT			NC		
Count	-3	>330	>330	-3	>330	>330	-3	>330	>330	-3	>330	>330
	-4	33	33	-4	34	30	-4	72	65	-4	82	80
Weighted Mean	3.30E+06			3.20E+06			6.85E+06			8.10E+06		
Lg	6.52			6.51			6.84			6.91		
NC - Nc (Not > +/- 0.3lg)	-			0.04			-			0.21		
NT - Nc (Not > +/- 0.3lg)	0.05			-			0.14			-		

	Escherichia coli ATCC 10536						*Enterococcus hirae ATCC 10541*					
	NT			NC			NT			NC		
Count	-3	>330	>330	-3	>330	>330	-3	>330	>330	-3	>330	>330
	-4	73	72	-4	60	45	-4	72	55	-4	63	51
Weighted Mean	7.25E+06			5.25E+06			6.35E+06			5.70E+06		
Lg	6.86			6.72			6.80			6.76		
NC - Nc (Not > +/- 0.3lg)	-			0.13			-			0.22		
NT - Nc (Not > +/- 0.3lg)	0.27			-			0.27			-		

	Candida albicans ATCC 10231					
	NT			NC		
Count	-3	>330	>330	-3	>330	>330
	-4	27	25	-4	30	25
Weighted Mean	2.60E+06			2.75E+06		
Lg	6.41			6.44		
NC - Nc (Not > +/- 0.3lg)	-			-0.02		
NT - Nc (Not > +/- 0.3lg)	-0.05			-		

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Determination of Microbicidal Activity (Nd) and Water Control (Nc) (Count/Test Surface)

Pseudomonas aeruginosa ATCC 15442

10^x	Water Control (Nc)		Test Procedure (Nd)	
			1600 ppm	
N	-	-	0	0
-1	-	-	-	-
-2	-	-	-	-
-3	>330	>330	-	
-4	30	29	-	
Mean	2.95E+06		-	
Lg	6.47		< 0.10	
Nts (count remaining on disc)	>100		0	
Log Reduction (R)			> 6.37	
			PASS	

Staphylococcus aureus ATCC 6538

10^x	Water Control (Nc)		Test Procedure (Nd)	
			1600 ppm	
N	-	-	0	0
-1	-	-	-	-
-2	-	-	-	-
-3	>330	>330	-	
-4	51	48	-	
Mean	4.95E+06		-	
Lg	6.69		< 0.10	
Nts (count remaining on disc)	>100		0	
Log Reduction (R)			> 6.59	
			PASS	

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Escherichia coli ATCC 10536

10^x	Water Control (Nc)		Test Procedure (Nd)	
			1600 ppm	
N	-	-	0	0
-1	-	-	-	-
-2	-	-	-	-
-3	>330	>330	-	
-4	41	36	-	
Mean	3.85E+06		-	
Lg	6.59		< 0.10	
Nts (count remaining on disc)	>100		0	
Log Reduction (R)			> 6.49	
			PASS	

Enterococcus hirae ATCC 10541

10^x	Water Control (Nc)		Test Procedure (Nd)	
			1600 ppm	
N	-	-	0	0
-1	-	-	-	-
-2	-	-	-	-
-3	>330	>330	-	
-4	38	30	-	
Mean	3.40E+06		-	
Lg	6.53		< 0.10	
Nts (count remaining on disc)	>100		0	
Log Reduction (R)			> 6.43	
			PASS	

Candida albicans ATCC 10231

10^x	Water Control (Nc)		Test Procedure (Nd)	
			1600 ppm	
N	-	-	30	26
-1	-	-	-	-
-2	-	-	-	-
-3	>330	>330	-	
-4	32	26	-	
Mean	2.90E+06		2.80E+02	
Lg	6.46		2.45	
Nts (count remaining on disc)	100		0	
Log Reduction (R)			4.02	
			PASS	

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Note:

Viable counts of 1-14 (below the lower limit) are expressed as $<1.4 \times 10^2$ (<2.15 Log)

Viable counts of 0 are expressed as < 0.10 Log

Viable counts >330 for bacteria and yeasts and >165 for mould (higher than the upper limit) are expressed as $> 3.3 \times 10^5$ (>5.52 log) or $> 1.65 \times 10^5$ (>5.22 log)

Nts counts of >100 are expressed as >100

Method Verification:

For Each Test:	
The mean counts used for calculation of N, Nc, Nd, NC and NT are between 14 and 330 for bacteria and yeasts and 14 and 165 for moulds	Yes
6.57≤N≤7.10 for bacteria in dirty conditions and clean conditions (except Pseudomonas aeruginosa) and for Candida albicans in clean conditions	Yes
7.57≤N≤8.10 for Pseudomonas aeruginosa in clean conditions	Yes
5.57≤N≤6.10 for Candida albicans in dirty conditions and Aspergillus brasiliensis in clean or dirty conditions	N/A
NC-Nc is not > ± 0.3 log	Yes
NT-Nc is not > ± 0.3 log	Yes
Nts is <100 cfu for active concentrations	Yes
Weighted mean quotient for N is 5≤N≤15	Yes
Nc is sufficiently high to demonstrate a 4 lg reduction for bacteria and a 3 lg reduction for fungi	Yes

The sample detailed in this report will be retained for 1 month after report date, unless otherwise requested.

The results on this report refer to the items tested only.

Sample description (name of product) and batch references (batch number) stated are as provided by the customer.

****End of test report****

Test Report for Virology
BS EN 14476:2013+A2:2019

Company Name:	**PVA Hygiene**
Contact Name:	Jim Taylor
Contact Email:	technical@pva-hygiene.co.uk
Purchase Order No:	PVA0163
Report Date:	16/02/2023
Melbec Ref Number:	50899
Name of Test Product:	**BL001**
Batch Number:	**n/a**

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info@melbecmicrobiology.co.uk, www.melbecmicrobiology.co.uk. Registered in England. Company No 8604622. VAT No 167 857945.

Test Report for Virology
BS EN 14476:2013+A2:2019

Sample Details:

Manufacture / Supplier:.....	PVA Hygiene
Product storage conditions:.....	Ambient
Product appearance:.....	White powder in sachets
Active substance and concentration:.....	Troclosene
Product dilution preparation:.....	Weight/Volume
Product dilutions/concentrations:.....	2400ppm, 1600ppm, and 600ppm
Diluent used to dilute product:.....	Synthetic Hard Water
Cytotoxicity Reduction method:.....	MicroSpin S 400 HR columns and Large volume plating
Product pH:.....	2400ppm pH 6.56, 1600ppm pH 6.71, 600ppm pH 6.97
Incubation temperature:.....	37°C +/- 1°C CO_2

The test product was in satisfactory condition for testing when received.

Date product received: 30/01/23 Test Date: 08/02/23

Experimental Conditions:

Interfering substance:	Bovine Albumin (clean 0.3g/l)
Test temperature:	20 +/- 1 °C
Contact time:	1 minute
Test organisms:	*Vaccinia virus VR-1508 (Modified Vaccinia Ankara)*
Cell line identification:	BHK-21 Clone 13
Cell culture media:	Dulbeco's minimum essential medium + 2.0% v/v Foetal Bovine Serum

Requirements of the Standard:

The test product shall demonstrate at least a 4 decimal logarithm (lg) reduction when tested in accordance with this standard under simulated clean or dirty conditions.

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Conclusion:

For the product BL001 , the log reduction requirements as specified in BS EN 14476:2013+A2:2019 (4 lg within the relevant contact time) were met in clean conditions with a contact time of 1 minute at 2400ppm.

Report authorised by:

Name: Dr Nafisa Huq
Position: Head of Virology
Date: 16/02/2023

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Method

Test procedure

To determine the virucidal activity of the product, test virus is exposed to product dilutions for the required contact time and subsequently, the product is neutralised. The solution is then serially diluted and titrated on cell monolayers. The surviving virus tissue culture infective dose ($TCID_{50}$) is determined by the appearance of cytopathic effect (CPE) on the cells and is calculated using the Spearman-Kärber calculation.

Several controls are run alongside each test to validate the assay.

Titration of Virus control: The titration of the virus test suspension is determined at the start of the test and at the end of the test to determine its infectivity.

Reference for Virus Inactivation control: Formaldehyde is used instead of the test product, at 2 time points to demonstrate that the virus remains resistant to biocidal action at known concentrations.

Efficiency of Suppression: The test product is neutralised during the test, prior to the addition of test virus. Recovery of the test virus at it's original titre demonstrates effective product neutralisation.

Interference control: Cell are incubated with the test product for 1 hour and subsequently the test virus is added. Recovery of the test virus at it's original titre demonstrates that the presence of the product does not prevent infection of the cells by the test virus, and thus does not interfere with quantification of virucidal activity.

Cytotoxicity: Both the product and formaldehyde are incubated with cells, without the addition of test virus, to determine if any morphological changes occur that may mirror CPE normally caused by virus. This ensures any CPE seen is a result of residual virus and not the product.

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Test Report for Virology
BS EN 14476:2013+A2:2019

Vaccinia virus VR-1508 (Modified Vaccinia Ankara)

Test Results				
Contact time	1 minute	**Raw data**	**log $TCID_{50}$/ml**	**Log reduction**
Product (2400ppm)		T0000000	3.50	4.00
Product (1600ppm)		T2000000	3.83	3.67
Product (600ppm)		66600000	5.50	2.00
Virus Test Suspension	Start	66666000	**7.50**	
	Finish	66666000		

Inactivation Control (0.7% Formaldehyde)			
Contact time	**Raw data**	**log $TCID_{50}$/ml**	**Log reduction**
5 mins	66660000	6.50	1.00
15 mins	66550000	5.33	2.17

Formaldehyde Cytotoxicity	
Raw data	00000000
Level of cytotoxicity	2.50

Product Neutralisation		
Raw data	**log $TCID_{50}$/ml**	Log reduction
66666500	7.33	0.17

Product cytotoxicity	
Raw data	**Level of cytotoxicity**
T0000000	3.50

Product Interference			
	Raw data	**log $TCID_{50}$/ml**	Log reduction
PBS	66666500	7.33	0.17
Test product	66666200	6.83	0.67

Key: "T" = Cytotoxicity

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Verification of the methodology

Result Summary	Log of TCID50	Average	Log Reduction	Criteria	met/not met
Titration of Virus Control (Start)	7.50	7.50			
Titration of Virus Control (End)	7.50				
Product (2400ppm)	3.50		4.00	Log Reduction >= 4 Log	**Met**
Product (1600ppm)	3.83		3.67	-	**N/A**
Product (600ppm)	5.50		2.00	Log Reduction <= 4 Log	**Met**
Reference Test for Inactivation (Formaldehyde) 5 mins	6.50		1.00	between 0.75 and 3.5	**Met**
Reference Test for Inactivation (Formaldehyde) 15 mins	5.33		2.17	between 2.0 and 4.0	**Met**
Efficiency of Suppression	7.33		0.17	<=0.5 log of Average	**Met**
Interference Control (Product)	6.83		0.67	<=1.0 log of Average	**Met**
Interference Control (PBS)	7.33		0.17	<=1.0 log of Average	**Met**
Product Cytotoxicity	3.50			-	**N/A**

1) The titre of the test suspension is at least 10^8 TCID50 /ml or is sufficiently high to at least enable a titre reduction of 4 lg to verify the method: detectable titre reduction shall be at least 4 lg.
2) The difference between the logarithmic titre of the virus control and the logarithmic titre of the test organism in the reference inactivation test should be between 0.75 and 3.5 after 5 mins and between 2.0 and 4.0 after 15 mins for Vaccinia virus VR-1508 (Modified Vaccinia Ankara).
3) Cytotoxicity of the product test solution should not affect cell morphology and growth or susceptibility for the test organism in the dilutions of the test mixtures which are necessary to demonstrate a 4 lg reduction of the virus.
4) The product should not interfere with susceptibility of the cells to the test organism, the difference in the titre of the test suspension and the recovered titre of the interference control should be <1lg.
5) Control of efficiency for suppression of product activity (the difference to the test suspension shall be ≤ 0,5 lg).
6) At least one concentration per test shall demonstrate a 4 lg or more reduction and at least one concentration shall demonstrate a lg reduction of less than 4.

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

1.1. Product identifier

Product form : Mixture
Product name : CHLOR-DIS
Product code : DB7:20, DB8:20,DB9:20,BL001

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

1.2.1. Relevant identified uses

Main use category : Professional use,Consumer use
Use of the substance/mixture : Disinfectant

1.2.2. Uses advised against

Restrictions on use : Not for Oral Consumption, Not for Direct Application to Food Stuffs, Do not mix with acids, this will release toxic chlorine gas.

1.3. Details of the supplier of the safety data sheet

Manufacturer
PVA HYGIENE
UNIT 6 Havyat Business Park Havyat Road
BS40 5PA Bristol – United Kingdom
T +44 (0)1934 862 859
sales@pva-hygiene.co.uk

1.4. Emergency telephone number

Emergency number : 01934 862859 (Office Hours). For Immediate first aid advice in the UK call 111
This product is registered with NPIS in the UK.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP] and GB CLP Regulations

Serious eye damage/eye irritation, Category 2	H319
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335
Hazardous to the aquatic environment – Acute Hazard, Category 1	H400
Hazardous to the aquatic environment – Chronic Hazard, Category 1	H410

Full text of H- and EUH-statements: see section 16

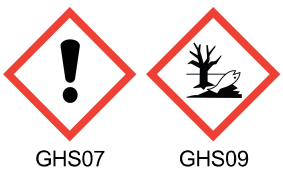
Adverse physicochemical, human health and environmental effects

NOTE:- In Use Solutions of this Product are NOT CLASSIFIED.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS07 GHS09

Signal word (CLP) : Warning
Contains : troclosene sodium, dihydrate
Hazard statements (CLP) : H319 - Causes serious eye irritation.
H335 - May cause respiratory irritation.
H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements (CLP) : P102 - Keep out of reach of children.
P264 - Wash hands, face thoroughly after handling.
P273 - Avoid release to the environment.
P280 - Wear eye protection.
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P402+P404 - Store in a dry place. Store in a closed container.
P501 - Dispose of contents and container to National Regulations.

2.3. Other hazards

This product does not contain any substances classifed as PBT
This product does not contain any substances clasified as vPvB.
Contains no PBT/vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

Other information : To the best of our knowledge this product contains no Endocrine disrupting substances.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP] and GB CLP Regulations
troclosene sodium, dihydrate	CAS-No.: 51580-86-0 EC-No.: 220-767-7 EC Index-No.: 613-030-01-7	≥ 25 – < 30	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : If medical advice is needed, have product container or label at hand. For immediate First Aid advice in the UK, dial 111. When it is safe to do so, remove the victim immediately from the source of exposure. However, consideration should be given as to whether moving the victim will cause further injury.

First-aid measures after inhalation : Unlikely without deliberate abuse. Move the affected person to the fresh air.

First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Do not induce vomiting. Rinse mouth thoroughly with water. Get medical attention.

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

Symptoms/effects : Neat product will cause irritation to eyes. Dilute solutions are unclassified, but may cause transient irritation. Eye contact should be treated as above.

Symptoms/effects after inhalation : Unlikely route of exposure, but inhalation of dilute solution droplets may result in a sore throat. Note if mixed with acid, toxic Chlorine gas can be produced, check for respiratory disorders.

Symptoms/effects after skin contact	:	Prolonged or repeated exposure may result in irritation or redness, particulalry on broken skin.
Symptoms/effects after eye contact	:	Eye irritation.
Symptoms/effects after ingestion	:	If sachets are swallowed they could swell and could block the throat and GI tract. Irritation to the mouth and GI tract could occur. Ingestion of normal use solutions is unlikely to cause long term harm, but irritation of the mouth and GI tract is likely.

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

Rinse with plenty of water. Check for abrasion to the surface of the eye from powder particles. Check breathing.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	:	Use extinguishing agent suitable for surrounding fire.
Unsuitable extinguishing media	:	Water. Foam.

5.2. Special hazards arising from the substance or mixture

Fire hazard	:	The product is not flammable.
Reactivity in case of fire	:	In case of contact with acid may give off chlorine.
Hazardous decomposition products in case of fire	:	On heating irritating or toxic fumes may be produced.

5.3. Advice for firefighters

Protection during firefighting	:	Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures	:	Ventilate spillage area. Avoid contact with eyes.

6.1.2. For emergency responders

Protective equipment	:	Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Normal use solutions can be disposed to sewers and septic tanks. Large scale spillages or uncontrolled discharges into water systems must be reported to the relevant Environment Agency.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	:	Collect and place spillage in suitable containers. Seal the containers and apply labelling to identify the material and hazards. For disposal see section 13 of this SDS.
Other information	:	Dispose of via an authorised person/ licensed waste disposal contractor or by other suitable waste treatment techniques.

6.4. Reference to other sections

For further information refer to section 13. See sections 2,8,12,13 &14.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	:	Carefully comply with the instructions for use. Avoid contact with eyes.
Hygiene measures	:	Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a dry place. Store in a closed container.
Storage temperature : < 40 °C

7.3. Specific end use(s)

Hard surface disinfectant suitable for most surfaces. However, care should be taken on delicate dyed materials such as fabrics.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

No additional information available

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:
Ensure good ventilation of the work station. Comment relates to the manufacture and packing processes for this product.

8.2.2. Personal protection equipment

Personal protective equipment symbol(s):

8.2.2.1. Eye and face protection

Eye protection:
Safety glasses. Normal use solutions are not classified and eye protection is not mandated, but should be considered if there is a risk of splashing. During manufacture and Packaging Eye Protection is required. Refer to EN166.

8.2.2.2. Skin protection

Hand protection:
During normal use gloves are not required. During manufacture and packing operations, the use of gloves with a breakthrough time >60 minutes is recommended. Refer to EN374 to select appropriate level of protection. Rubber and PVC gloves are recommended. Although not mandated in normal use, gloves should be considered for sensitive skin or long term contact.

8.2.2.3. Respiratory protection

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment. Note:- This would be very unusual in normal use.

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:
Avoid large scale release of undiluted material to the environment.

Other information:
The PPE indicated in this SDS is not a COSHH assessment. It represents the PPE that should be considered for the neat product at all stages of the products life cycle, including manufacture, packing, distribution, use and disposal. Use solutions are unclassified, but for these we recommend use of gloves as minimum PPE.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Appearance	:	Powder.
Colour	:	white.
Odour	:	Faint Bleach like.
Odour threshold	:	No data available
pH	:	5 – 8 @1% v/v
Relative evaporation rate (butylacetate=1)	:	Not applicable.
Melting point	:	Not applicable
Freezing point	:	Not applicable
Boiling point	:	Not applicable
Flash point	:	Not applicable
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	Not applicable
Flammability (solid, gas)	:	Not Flammable
Vapour pressure	:	Not applicable
Relative vapour density at 20°C	:	Not applicable
Relative density	:	≈ 1.22
Solubility	:	Completely soluble in water.
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Viscosity, kinematic	:	Not applicable
Viscosity, dynamic	:	No data available
Explosive properties	:	Product is not explosive.
Oxidising properties	:	Not oxidising.
Explosive limits	:	Not applicable

9.2. Other information

Softening point	:	Not applicable
VOC content	:	Not Volatile, contains no VOC's

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Store away from moisture in a closed container.

10.5. Incompatible materials

Strong acids. In case of contact with acid may give off chlorine.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

troclosene sodium, dihydrate (51580-86-0)	
LD50 oral rat	1823 mg/kg Source: e-Chemportal ; HPVIS
LD50 dermal rat	> 5000 mg/kg Source: e-Chemportal ; HPVIS
ATE CLP (oral)	1823 mg/kg bodyweight

Skin corrosion/irritation : Not classified
pH: 5 – 8 @1% v/v

troclosene sodium, dihydrate (51580-86-0)	
pH	6 – 7 Source: seton

Serious eye damage/irritation : Causes serious eye irritation.
pH: 5 – 8 @1% v/v

troclosene sodium, dihydrate (51580-86-0)	
pH	6 – 7 Source: seton

Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : This mixture is not classified as a carcinogen.
Reproductive toxicity : This mixture has no reproductive/foetal harm classifications and is not expected to be a risk to expectant mothers.
STOT-single exposure : May cause respiratory irritation.

troclosene sodium, dihydrate (51580-86-0)	
STOT-single exposure	May cause respiratory irritation.

STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

CHLOR-DIS	
Viscosity, kinematic	Not applicable

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Normal use solutions of this product are not classified for environmental harm.
Hazardous to the aquatic environment, short–term (acute) : Very toxic to aquatic life.
Hazardous to the aquatic environment, long–term (chronic) : Very toxic to aquatic life with long lasting effects.
Not rapidly degradable

troclosene sodium, dihydrate (51580-86-0)	
LC50 - Fish [1]	0.25 mg/l Source: ECOTOX
EC50 - Crustacea [1]	0.28 mg/l Source: ECOTOX

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

CHLOR-DIS	
Bioaccumulative potential	Not expected to Bioaccumulate.
troclosene sodium, dihydrate (51580-86-0)	
Partition coefficient n-octanol/water (Log Pow)	-0.06 Source: EPISUITE

12.4. Mobility in soil

CHLOR-DIS	
Additional information	soluble in water
troclosene sodium, dihydrate (51580-86-0)	
Mobility in soil	7.483 Source: EPISUITE

12.5. Results of PBT and vPvB assessment

CHLOR-DIS
This product does not contain any substances classifed as PBT
This product does not contain any substances clasified as vPvB.

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

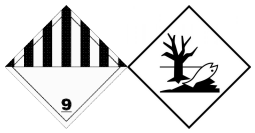
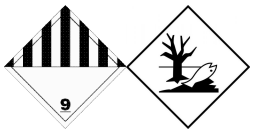
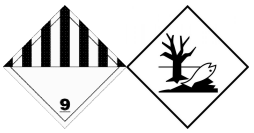
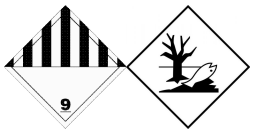
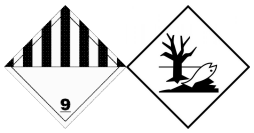
13.1. Waste treatment methods

Waste treatment methods : Disposal of this product must comply with local and national environmental legislation.
Sewage disposal recommendations : Small volumes of use solution can be disposed of to sewage drains.

SECTION 14: Transport information

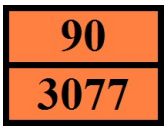
In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
These substances when carried in single or combination packagings containing a net quantity per single or inner packaging of 5 l or less for liquids or having a net mass per single or inner packaging of 5 kg or less for solids, are not subject to any other provisions of ADR provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.				
14.1. UN number				
UN 3077	UN 3077	UN 3077	UN 3077	UN 3077
14.2. UN proper shipping name				
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (TROCLOSENE SODIUM DIHYDRATE)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (TROCLSENE SODIUM DIHYDRATE)	Environmentally hazardous substance, solid, n.o.s. (TROCLOSENE SODIUM DIHYDRATE)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (TROCLOSENE SODIUM DIHYDRATE)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (TROCLOSENE SODIUM DIHYDRATE)

ADR	IMDG	IATA	ADN	RID
Transport document description				
UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (TROCLOSENE SODIUM DIHYDRATE), 9, III, (-)	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (TROCLSENE SODIUM DIHYDRATE), 9, III, MARINE POLLUTANT	UN 3077 Environmentally hazardous substance, solid, n.o.s. (TROCLOSENE SODIUM DIHYDRATE), 9, III	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (TROCLOSENE SODIUM DIHYDRATE), 9, III	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (TROCLOSENE SODIUM DIHYDRATE), 9, III
14.3. Transport hazard class(es)				
9	9	9	9	9
				
14.4. Packing group				
III	III	III	III	III
14.5. Environmental hazards				
Dangerous for the environment: Yes	Dangerous for the environment: Yes Marine pollutant: Yes	Dangerous for the environment: Yes	Dangerous for the environment: Yes	Dangerous for the environment: Yes
No supplementary information available				

14.6. Special precautions for user

Overland transport

Classification code (ADR)	:	M7
Special provisions (ADR)	:	274, 335, 375, 601
Limited quantities (ADR)	:	5kg
Excepted quantities (ADR)	:	E1
Packing instructions (ADR)	:	P002, IBC08, LP02, R001
Special packing provisions (ADR)	:	PP12, B3
Mixed packing provisions (ADR)	:	MP10
Portable tank and bulk container instructions (ADR)	:	T1, BK1, BK2, BK3
Portable tank and bulk container special provisions (ADR)	:	TP33
Tank code (ADR)	:	SGAV, LGBV
Vehicle for tank carriage	:	AT
Transport category (ADR)	:	3
Special provisions for carriage - Packages (ADR)	:	V13
Special provisions for carriage - Bulk (ADR)	:	VC1, VC2
Special provisions for carriage - Loading, unloading and handling (ADR)	:	CV13
Hazard identification number (Kemler No.)	:	90
Orange plates	:	
Tunnel restriction code (ADR)	:	-
EAC code	:	2Z

Transport by sea

Special provisions (IMDG)	:	274, 335, 966, 967, 969
Limited quantities (IMDG)	:	5 kg
Excepted quantities (IMDG)	:	E1
Packing instructions (IMDG)	:	LP02, P002

Special packing provisions (IMDG)	:	PP12
IBC packing instructions (IMDG)	:	IBC08
IBC special provisions (IMDG)	:	B3
Tank instructions (IMDG)	:	BK1, BK2, BK3, T1
Tank special provisions (IMDG)	:	TP33
EmS-No. (Fire)	:	F-A
EmS-No. (Spillage)	:	S-F
Stowage category (IMDG)	:	A
Stowage and handling (IMDG)	:	SW23

Air transport

PCA Excepted quantities (IATA)	:	E1
PCA Limited quantities (IATA)	:	Y956
PCA limited quantity max net quantity (IATA)	:	30kgG
PCA packing instructions (IATA)	:	956
PCA max net quantity (IATA)	:	400kg
CAO packing instructions (IATA)	:	956
CAO max net quantity (IATA)	:	400kg
Special provisions (IATA)	:	A97, A158, A179, A197, A215
ERG code (IATA)	:	9L

Inland waterway transport

Classification code (ADN)	:	M7
Special provisions (ADN)	:	274, 335, 375, 601
Limited quantities (ADN)	:	5 kg
Excepted quantities (ADN)	:	E1
Carriage permitted (ADN)	:	T* B**
Equipment required (ADN)	:	PP, A***
Number of blue cones/lights (ADN)	:	0
Additional requirements/Remarks (ADN)	:	* Only in the molten state. ** For carriage in bulk see also 7.1.4.1. ** * Only in the case of transport in bulk.

Rail transport

Classification code (RID)	:	M7
Special provisions (RID)	:	274, 335, 375, 601
Limited quantities (RID)	:	5kg
Excepted quantities (RID)	:	E1
Packing instructions (RID)	:	P002, IBC08, LP02, R001
Special packing provisions (RID)	:	PP12, B3
Mixed packing provisions (RID)	:	MP10
Portable tank and bulk container instructions (RID)	:	T1, BK1, BK2, BK3
Portable tank and bulk container special provisions (RID)	:	TP33
Tank codes for RID tanks (RID)	:	SGAV, LGBV
Transport category (RID)	:	3
Special provisions for carriage – Packages (RID)	:	W13
Special provisions for carriage – Bulk (RID)	:	VC1, VC2
Special provisions for carriage - Loading, unloading and handling (RID)	:	CW13, CW31
Colis express (express parcels) (RID)	:	CE11
Hazard identification number (RID)	:	90

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

VOC Directive (2004/42)

VOC content : Not Volatile, contains no VOC's

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

GB REACH and CLP regulations.
UK HSE EH40 Publication.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard

Abbreviations and acronyms:	
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

Full text of H- and EUH-statements:	
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment – Chronic Hazard, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.