HyGuide Desinfektion Reiniger
Vollviruzides Desinfektionsmittel

HyGuide

Benefits

- Aldehyde-free Disinfectant Cleaner
- Broad spectrum of efficacy; bacteria, yeast and enveloped & non-enveloped viruses
- Cleans and disinfects in the presence of dirt, blood and proteins
- VAH compliant
- Also registered for sale in the Netherlands

Technical User Information

Ingredients

Actives	
Didecyl dimethyl ammonium chloride (DDAC), [CAS No. 7173-51-5]	approx. 6.9%

Inerts	
Water, chelating agent, surfactant, pH modifier	approx. 93.1%

Use Information

Direction of Use

(Hard Surface only)

1. Remove heavy soil deposits from the surface.
2. Dilute according to application. Prepare a fresh solution just prior to being used and replace if the solution becomes visibly dirty.
3. Apply to surface by mopping, trigger spray applicator, pouring and wiping. Use 30-50 mL/m^2 to thoroughly wet and leave to act for 5-15 minutes (depending on claim). Surface must remain wet for the entire contact time.
4. Rinse or allow to air dry. Disinfected surfaces which may come into contact with food must be rinsed with potable water. Rinsing of floors is not necessary unless they are to be waxed or polished.
5. Product should not be used in combination with other biocides or cleaning products.
6. Check compatibility with surfaces by first testing on an inconspicuous area.

Please note the use directions are generic and there may be additional country specific instructions, as applied by National Authorities. For more information, please request the product label from your Lonza contact for any countries of interest.

Detailed Efficacy Data

Introduction

In order to support a product through the Biocidal Product Regulation (BPR, EU (No) 528/2012), relevant European test data must be submitted as part of the dossier. The EN 14885 Standard (Chemical disinfectants and antiseptics-application of European Standard for chemical disinfectants and antiseptics) specifies the laboratory methods required to substantiate the claim set for the chemical disinfectant. European Normal (EN) Test Protocols and their associated pass criteria are outlined for different application areas e.g. “medical”, “veterinary”, “food”, “industrial and institutional” and “domestic” areas.

Each EN test specifies a limited range of microbial species that must be used. These have been chosen as representative organisms to substantiate broader product claims (e.g. bactericide, yeasticide, fungicide, sporicide, virucide and mycobactericide) taking into account their practical relevance for each of the application areas. In addition, different soil (or interfering substances) are specified depending on the end application. This supports the efficacy claimed by the product and its suitability for the specific area of use.

All of the data presented for Lonzagard® DR-25aN has been generated using standard EN Test Norms. Not all claims are valid in all registered member states.

Antimicrobial Performance

Food, Industrial and Institutional Areas
Tested According to European Norms (EN)

Activity Claim: Bactericidal

EN 1276

Bactericidal result (log 5), in presence of high organic load

Test strains: *E. coli ATCC 10536, S. aureus ATCC 6538, E. hirae ATCC 10541, P. aeruginosa ATCC 15442*

Result	1.5 %	3.0 g/l BSA	5 min.
Result	1.5%	10.0 g/l Skimmed milk	5 min.
Result	1.0%	10.0 g/l Sucrose	5 min.
Result	1.5%	10.0 g/l Yeast extract	5 min.

Certificate: Eurofins, 31 May 2016

EN 1276 (MRSA)

Bactericidal result (log 5), in presence of high organic load (Albumin)

Test strain: *S. aureus* MRSA ATCC 33592

Result	1.0 %	3.0 g/l BSA	5 min.

Certificate: L + S AG, June 2010

EN 1276

Bactericial result (log 5), in presence of high organic load (Albumin)

Test strains: *L. monocytogenes ATCC 15313, S. typhimurium ATCC 13311*

Result	0.5 %	3.0 g/l BSA	5 min.

Certificate: Dr. Brill + Partner GmbH, 24 February 2017

EN 13697

Bactericidal result (log 4), in presence of high organic load (Albumin)

Test strains: *E. coli ATCC 10536, S. aureus ATCC 6538, E. hirae ATCC 10541, P. aeruginosa ATCC 15442*

Result	2.5 %	3.0 g/l BSA	5 min.

Certificate: Eurofins-Biolab Spa, 30 July 2007

EN 13697

Bactericidal result (log 4), in presence of high organic load (Albumin)

Test strain: *L. monocytogenes ATCC 15313*

Result	1.5 %	3.0 g/l BSA	5 min.

Test strain: *S. typhimurium ATCC 13311*

Result	3.0 %	3.0 g/l BSA	5 min.

Certificate: Dr. Brill + Partner GmbH, 24 February 2017

EN 16615

Bactericidal results (log 5), in presence of high medical organic load (Albumin + Sheep Eryrthocytes)

Test strains: *S. aureus ATCC 6538, E. hirae ATCC 10541, P. aeruginosa ATCC 15442*

Result	6.0%	3.0g/l BSA + 3.0g/l Erythrocytes	5 min.

Certificate: Dr. Brill + Partner GmbH, 28 July 2017

EN 1276

Bactericidal result (log 5), in presence of low organic load (Albumin)

Test strains: *S. aureus ATCC 6538, E. coli ATCC 10536, E. hirae ATCC 10541, P. aeruginosa ATCC 15442*

Result	0.5%	0.3 g/l BSA	10 min
	0.25%	0.3 g/l BSA	20 min

Certificate: Dr. Brill + Partner GmbH, 14 March 2018

EN 1276 (modified)

Bactericidal result (log 4), in presence of low organic load (Albumin)

Test strain: *L. interrogans* (Weil's disease)

Result	1.0 %	0.3 g/l BSA	5 min.

Certificate: Blue Scientific Test Data, August 2009

EN 13697

Bactericidal result (log 4), in presence of low organic load (Albumin)

Test strains: *S. aureus ATCC 6538, E. coli ATCC 10536, E. hirae ATCC 10541, P. aeruginosa ATCC 15442*

Result	0.5%	0.3 g/l BSA	15 min
Result	0.5%	0.3 g/l BSA + 8.5 g/l skimmed milk for *P. aeruginosa*	10 min

Certificate: Dr. Brill + Partner GmbH, 14 March 2018

Activity Claim: Yeasticidal

EN 1650

Yeasticidal result (log 4), in presence of high organic load (Albumin)

Test strain: *C. albicans ATCC 10231*

Result	0.5 %	3.0 g/l BSA	15 min.

Certificate: Eurofins, 31 May 2016

EN 13697

Yeasticidal result (log 3), in presence of high organic load (Albumin)

Test strain: *C. albicans ATCC 10231*

Result	2.0 %	3.0 g/l BSA	15 min.

Certificates: Eurofins, 31 May 2016

EN 16615

Yeasticidal results (log 4), in presence of high medical organic load (Albumin + Sheep Eryrthocytes)

Test strains: *C. albicans ATCC 10231*

Result	4.0%	3.0g/l BSA + 3.0g/l Erythrocytes	1 min.

Certificate: Dr. Brill + Partner GmbH, 28 July 2017

EN 1650

Yeasticidal result (log 4), in presence of low organic load (Albumin)

Test strain: *C. albicans ATCC 10231*

Result	0.25%	0.3 g/l BSA	10 min

Certificate: Dr. Brill + Partner GmbH, 14 March 2018

EN 13697

Yeasticidal result (log 3), in presence of low organic load (Albumin)

Test strain: *C. albicans ATCC 10231*

Result	0.25%	0.3 g/l BSA	10 min

Certificate: Dr. Brill + Partner GmbH, 14 March 2018

Activity Claim: Virucidal Against Bacteriophages

EN 13610

Virucidal activity against bacteriophages in presence organic load (1 % skimmed milk)

Results:

Lactococcus lactis subsp. lactis phage P001	3.0 %	15 min.
Lactococcus lactis subsp. lactis phage P008	3.0 %	15 min.

Certificate: Dr. Brill + Partner GmbH, 25 February 2014

Activity Claim: Limited Virucidal

EN 14476

Virucidal result (log 4), in presence of low organic load (Albumin) and high medical organic load (Albumin + Sheep Eryrthocytes)

Test strain: *Murine Norovirus strain S99 Berlin*

Result	2.0 %	0.3 g/l BSA	5 min.
Result	2.0%	3.0 g/l BSA + 3.0g/l Erythrocytes	15 min.

Certificate: Dr. J. Steinmann, Mikrolab, 1 April 2014

EN 14476

Virucidal result (log 4), in presence of low organic load (Albumin) and high medical organic load (Albumin + Sheep Eryrthocytes)

Test strain: *Adenovirus Type 5 strain Adenoid 75*

Result	2.0%	0.3 g/l BSA	15 min.
Result	2.0%	3.0 g/l BSA + 3.0g/l Erythrocytes	60 min.
Result	4.0%	3.0 g/l BSA + 3.0g/l Erythrocytes	15 min.

Certificate: Dr. J. Steinmann, MikroLab, 27 July 2010

Activity Claim: Virucidal Against Enveloped Viruses

EN 14476:2013+A1:2015

Virucidal result (log 4), in presence of high medical organic load (Albumin + Sheep Eryrthocytes)

Test strain: *Modified Vaccinia Virus Ankara (MVA)*

Result	1.0 %	3.0 g/l BSA + 3.0g/l Erythrocytes	5 min.

Certificate: Dr. J. Steinmann, Dr. Brill + Partner GmbH, Bremen, 7 February 2017

EN 14476

Virucidal result (log 4), in presence of high medical organic load (Albumin + Sheep Eryrthocytes)

Test strain: *Influenza A (H7N9) Virus*

Result	0.5%	3.0 g/l BSA + 3.0g/l Erythrocytes	5 min.

Certificate: Microbac Laboratory, Sterling VA20164 (USA), 13 September 2013

EN 14476:2013+A1:2015

Virucidal result (log 4), in presence of high medical organic load (Albumin + Sheep Eryrthocytes)

Test strain: *Influenza A (H1N1) Virus*

Result	0.5%	3.0 g/l BSA + 3.0g/l Erythrocytes	5 min.

Certificate: Dr. J. Steinmann, Dr. Brill + Partner GmbH, Bremen, 8 February 2017

Veterinary Areas
Tested According to European Norms (EN)

Activity Claim: Bactericidal

EN 1656

Bactericidal result (log 5), in presence of high veterinary organic load (Albumin + Yeast Extract) at 10°C

Test strains: *P. aeruginosa ATCC 15442, S. aureus ATCC 6538, E. hirae ATCC 10541 and P. vulgaris ATCC 13315*

Result	4.0%	10.0g/l BSA + 10.0 g/l Yeast extract	30 min.

Certificate: Eurofins, 31 May 2016

EN 14349 (non-porous surfaces)

Bactericidal result (log 4), in presence of high veterinary organic load (Albumin + Yeast Extract) at 10°C

Test strains: *P. aeruginosa ATCC 15442, S. aureus ATCC 6538, E. hirae ATCC 10541 and P. vulgaris ATCC 13315*

Result	6.0%	10.0g/l BSA + 10.0 g/l Yeast extract	30 min.

Certificate: Eurofins, 31 May 2016

Activity Claim: Yeasticidal

EN 1657

Yeasticidal result (log 4), in presence of high veterinary organic load (Albumin + Yeast Extract) at 10°C

Test strain: *C. albicans ATCC 10231*

Result	2.0%	10.0g/l BSA + 10.0 g/l Yeast extract	30 min.

Certificate: Eurofins, 31 May 2016

EN 16438

Yeasticidal result (log 3), in presence of high veterinary organic load (Albumin + Yeast Extract) at 10°C

Test strain: *C. albicans ATCC 10231*

Result	2.0%	10.0g/l BSA + 10.0 g/l Yeast extract	30 min.
Result	1.0%	10.0g/l BSA + 10.0 g/l Yeast extract	60 min.

Certificate: Dr Brill + Dr Steinmann, 5 October 2016; Eurofins, 31 May 2016

Activity Claim: Virucidal

EN 14675

Virucidal result (log 4), in presence of high veterinary organic load (Albumin + Yeast Extract) at 10°C

Test strain: *Modified Vaccinia Virus Ankara (MVA)*

Result	3.0%	10.0g/l BSA + 10.0 g/l Yeast extract	30 min.

Certificate: Dr. J. Steinmann, Dr. Brill + Partner GmbH, Bremen, 25 January 2017

Medical Areas
Tested According to European Norms (EN)

Activity Claim: Bactericidal

EN 13727

Bactericidal result (log 5), in presence of high medical organic load (Albumin + Sheep Eryrthocytes)

Test strains: *S. aureus ATCC 6538, E. hirae ATCC 10541, P. aeruginosa ATCC 15442*

Result	2.0 %	3.0 g/l BSA + 3.0g/l Erythrocytes	5 min.
Result	1.0 %	3.0 g/l BSA + 3.0g/l Erythrocytes	60 min.

Certificate: Eurofins, 17 June 2011

EN 13697

Bactericidal result (log 4), in presence of high medical organic load (Albumin + Sheep Eryrthocytes)

Test strains: *S. aureus ATCC 6538, E. hirae ATCC 10541, P. aeruginosa ATCC 15442*

Result	7.0 %	3.0 g/l BSA + 3.0g/l Erythrocytes	5 min
Result	1.0 %	3.0 g/l BSA + 3.0g/l Erythrocytes	60 min.

Certificate: Eurofins, 6 June 2016

EN 14561

Bactericidal result (log 5), in presence of low organic load (Albumin)

Test strains: *S. aureus ATCC 6538, E. hirae ATCC 10541, P. aeruginosa ATCC 15442*

Result	2.5 %	0.3 g/l BSA	15 min.

Certificate: Eurofins, 23 September 2011

EN 16615

Bactericidal results (log 5), in presence of high medical organic load (Albumin + Sheep Eryrthocytes)

Test strains: *S. aureus ATCC 6538, E. hirae ATCC 10541, P. aeruginosa ATCC 15442*

Result	6.0%	3.0g/l BSA + 3.0g/l Erythrocytes	5 min.

Certificate: Dr. Brill + Partner GmbH, 28 July 2017

Activity Claim: Yeasticidal

EN 13624

Yeasticidal result (log 4), in presence of high medical organic load (Albumin + Sheep Eryrthocytes)

Test strain: *C. albicans ATCC 10231*

Result	1.0 %	3.0 g/l BSA + 3.0g/l Erythrocytes	5 min.
Result	0.25 %	3.0 g/l BSA + 3.0g/l Erythrocytes	60 min.

Certificate: Eurofins, 31 May 2016

EN 13697

Yeasticidal result (log 3), in presence of high medical organic load (Albumin + Sheep Eryrthocytes)

Test strain: *C. albicans ATCC 10231*

Result	3.0 %	3.0 g/l BSA + 3.0g/l Erythrocytes	5 min.
Result	1.0 %	3.0 g/l BSA + 3.0g/l Erythrocytes	60 min.

Certificate: Eurofins, 6 June 2016

EN 14562

Yeasticidal result (log 4), in presence of low organic load (Albumin)

Test strain: *C. albicans ATCC 10231*

Result	3.0 %	0.3 g/l BSA	15 min.

Certificate: Eurofins, 23 September 2011

EN 16615

Yeasticidal results (log 4), in presence of high medical organic load (Albumin + Sheep Eryrthocytes)

Test strains: *C. albicans ATCC 10231*

Result	4.0%	3.0g/l BSA + 3.0g/l Erythrocytes	1 min.

Certificate: Dr. Brill + Partner GmbH, 28 July 2017

data to support a claim for cleaning with mechanical action, as it has passed EN 16615 for both bactericidal and yeasticidal claims.

Activity Claim: Full Virucidal

EN 14476

Virucidal result (log 4), in presence of low organic load (Albumin) and high medical organic load (Albumin + Sheep Eryrthocytes)

Test strain: *Poliovirus Type 1 strain LSc-2ab*

Result	4.0%	0.3 g/l BSA	30 min.
Result	5.0%	3.0 g/l BSA + 3.0g/l Erythrocytes	60 min.

Certificates: Dr. J. Steinmann, MikroLab, 27 July 2010; Eurofins, 23 June 2017

EN 14476

Virucidal result (log 4), in presence of low organic load (Albumin) and high medical organic load (Albumin + Sheep Eryrthocytes)

Test strain: *Adenovirus Type 5 strain Adenoid 75*

Result	2.0%	0.3 g/l BSA	15 min.
Result	2.0%	3.0 g/l BSA + 3.0g/l Erythrocytes	60 min.
Result	4.0%	3.0 g/l BSA + 3.0g/l Erythrocytes	15 min.

Certificate: Dr. J. Steinmann, MikroLab, 27 July 2010

EN 14476

Virucidal result (log 4), in presence of low organic load (Albumin) and high medical organic load (Albumin + Sheep Eryrthocytes)

Test strain: *Murine Norovirus strain S99 Berlin*

Result	2.0%	0.3 g/l BSA	5 min.
Result	2.0%	3.0 g/l BSA + 3.0g/l Erythrocytes	15 min.

Certificate: Dr. J. Steinmann, MikroLab, 1 April 2014

prEN 16777

Virucidal result (log 4), in presence of high medical organic load (Albumin + Sheep Eryrthocytes)

Test strain: *Adenovirus Type 5 strain Adenoid 75*

Result	5.0%	3.0 g/l BSA + 3.0g/l Erythrocytes	60 min.

Certificate: Eurofins, 23 June 2017

Activity Claim: Virucidal Against Enveloped Viruses

EN 14476:2013+A1:2015

Virucidal result (log 4), in presence of high medical organic load (Albumin + Sheep Eryrthocytes)

Test strain: *Modified Vaccinia Virus Ankara (MVA)*

Result	1.0 %	3.0 g/l BSA + 3.0g/l Erythrocytes	5 min.

Certificate: Dr. J. Steinmann, Dr. Brill + Partner GmbH, Bremen, 7 February 2017

EN 14476

Virucidal result (log 4), in presence of high medical organic load (Albumin + Sheep Eryrthocytes)

Test strain: *Influenza A (H7N9) Virus*

Result	0.5%	3.0 g/l BSA + 3.0g/l Erythrocytes	5 min.

Certificate: Microbac Laboratory, Sterling VA20164 (USA), 13 September 2013

EN 14476:2013+A1:2015

Virucidal result (log 4), in presence of high medical organic load (Albumin + Sheep Eryrthocytes)

Test strain: *Influenza A (H1N1) Virus*

Result	0.5%	3.0 g/l BSA + 3.0g/l Erythrocytes	5 min.

Certificate: Dr. J. Steinmann, Dr. Brill + Partner GmbH, Bremen, 8 February 2017

EN 14476

Virucidal result (log 4), in presence of high medical organic load (Albumin + Sheep Eryrthocytes)

Test strain: *Duck Hepatitis B (as a surrogate for Hepatitis B (HBV))*

Result	5.0 %	3.0 g/l BSA + 3.0g/l Erythrocytes	5 min.

Certificate: Blu Test Laboratories Ltd., 27 July 2016

EN 14476

Virucidal result (log 4), in presence of low organic load (Albumin)

Test strain: *Bovine Corona Virus (BCoV)* (as a surrogate for other members of the Coronavirus family including *MERS-CoV* and *SARS-CoV-2)*

Result	1.0 %	0.3 g/l BSA	1 min.

Certificate: Dr. J. Steinmann, MikroLab, 25 May 2014

After evaluation with *Poliovirus, Adenovirus and MNV (Murine Norovirus)* the surface disinfectant Lonzagard® DR-25aN can be declared as having "virucidal" properties according to EN 14476. Furthermore, Lonzagard® DR-25aN has passed prEN 16777, which is a viral surface test. prEN 16777, which was introducted in 2016, is based on similar methodology to EN 13697.

Virucidal Performance

Tested According to BGA (now RKI) and DW

Poliovirus

With soil load	5.0%	15 min.
	4.0%	60 min.

Certificate: Dr. J. Steinmann, Bremen, 15 February 2002

ECBO Virus

With soil load	5.0%	30 min.
	3.0%	60 min.

Certificate: Dr. J. Steinmann, Bremen, 21 August 2002

Adenovirus

With soil load	4.0%	30 min.

Certificate: Dr. J. Steinmann, Bremen, 24 May 2005

Norovirus

Test strain: *Feline calici virus (FCV)*

With soil load	4.0%	30 min.

Certificate: Dr. J. Steinmann, Bremen, 25 May 2005

Rota Virus

Without soil load	3.0%	15 min.

Certificate: Dr. J. Steinmann, Bremen, 8 June 2005

Vaccinia Virus

With soil load	2.0%	5 min.

Certificate: Dr. J. Steinmann, Bremen, 30 July 2005

Polyoma Virus SV 40 (formerly Papova Virus)

With soil load	2.0%	30 min.

Certificate: Dr. J. Steinmann, Bremen, 9 March 2006

Tested According to VAH

(Verbund für Angewandte Hygiene e.V.; The Association for Applied Hygiene)

Surface Disinfection with mechanical action (Requirements and Methods for VAH Certification, VIII 1a, concentrate to be diluted, 2015)

Test strains: *P.aeruginosa, S.aureus, E.hirae and C.albicans*

Result	6.0%	dirty conditions	5 min.
Result	2.0%	dirty conditions	15 min.
Result	1.0%	dirty conditions	30 min.
Result	1.0%	dirty conditions	60 min.

Certificates:

Dr. Brill + Partner, Hamburg, 9th January 2018; 25 June 2019

Prof. Dr. Werner, HygCen, Schwerin, 12th December 2017; 11 June 2019

Product Information

Material Compatibility

Suitable for hard washable surfaces. As surfaces vary in quality the product suitability should be checked by testing first on a small inconspicuous area. Aluminium, linoleum, acrylic glass or surfaces coated with polymers could be affected depending on the use concentration. Plasticized PVC could be discoloured. Usage of disinfectant followed by common rinse procedures is advised.

Compatibility Testing

Samples of typical materials used for medical devices which were tested for material compatibility:

- Anodixed aluminium
- Aluminium coated with powder technology
- Nickel plated mild steel
- Polished martensitic steel
- Stainless steel coated with gold
- Polyethylene
- Polymethacrylmethacrylate
- Composite material from tungsten carbide and nickel
- Polyvinylchloride flooring
- Flexible polyvinylchloride tube
- Two types of butyl rubber
- Optical glasses made from polycarbonate
- Optical glasses made from silicate

Product test concentration	3.0 %

Test conditions: submersion of material samples at 20°C for up to 30 days.

Phys-Chem Properties

Appearance	light yellow liquid
Odour	slightly saponaceous
Density at 20°C	1.05 g/cm^3
pH of concentrate	approx. 12.9
pH of 1 % aqueous solution	approx. 11.2
Surface tension, 1 % aqueous solution	29 mN/m
Viscosity at 20°C	30 mPa · s (spindle 1, 10 rpm, Brookfield)
Shelf life	3 years