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Chemical and Microbiological Laboratory, Testing Laboratory No. 1273 certified by Czech Accreditation Institute.

Summary of the testing of the product CHIROSAN PLUS

Summary was issued up to client's request.

Test report No.:	D139-1/2013
Sample ID:	D139/2013
Sample name:	**CHIROSAN PLUS**
Batch number:	001A130724
Date of manufacture:	24.7.2013
Expiry date:	24 months
Incoming date:	16.08.2013
Storage conditions:	stated by the manufacturer
Active compounds and concentrations:	CAS 15630-89-4 Sodium percarbonate <50%
Testing date:	4.9.2013 – 21.10.2013
Test report was issued:	11.3.2014

Digitally signed by Grițaenco Andrei
Date: 2022.12.26 15:52:06 EET
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Subject of testing:
Determination of bactericidal, fungicidal, mycobactericidal and tuberculocidal activity of the product on carriers.
Determination of sporicidal and virucidal activity of the product in the suspension.

Interpretation:
Results of tests are in Tabs.
According to ČSN EN 14561 the tested product **CHIROSAN PLUS**, Batch No. 001A130724, diluted in hard water, in the concentration 0.5% and the contact times 5, 30 and 60 min and in the concentration 1% and the contact time 5 min under clean and dirty conditions at temperature 20 °C ± 1 °C by the dilution neutralization method **decreased** on carriers the number of alive microbes *Pseudomonas aeruginosa* ATCC 15442, *Staphylococcus aureus* ATCC 6538, *Enterococcus hirae* ATCC 10541 by at least 5 (lg) orders.

According to ČSN EN 14562 the tested product **CHIROSAN PLUS**, Batch No. 001A130724, diluted in hard water, in the concentration 0.5% and the contact times 5, 30 and 60 min and in the concentration 1% and the contact time 5 min under clean and dirty conditions at temperature 20 °C ± 1 °C by the dilution neutralization method **decreased** on carriers the number of alive microbes *Candida albicans* ATCC 10231 by at least 4 (lg) orders.

According to ČSN EN 14562 the tested product **CHIROSAN PLUS**, Batch No. 001A130724, diluted in hard water, in the concentration 0.5% and the contact times 5, 30 and 60 min and in the concentration 1% and the contact time 5 min under clean and dirty conditions at temperature 20 °C ± 1 °C by the dilution neutralization method **did not decrease** on carriers the number of alive microbes *Aspergillus brasiliensis (niger)* ATCC 16404 by at least 4 (lg) orders.

According to ČSN EN 14563 the tested product **CHIROSAN PLUS**, Batch No. 001A130724, diluted in hard water, in the concentration 0.5% and the contact time 60 min, in the concentration 1% and the contact time 15 min and in the concentration 2% and the contact times 5 and 10 min under clean and dirty conditions at temperature 20 °C ± 1 °C by the dilution neutralization method **decreased** on carriers the number of alive microbes *Mycobacterium avium* ATCC 15769, *Mycobacterium terrae* ATCC 15755 by at least 4 (lg) orders.

According to ČSN EN 13704 the tested product **CHIROSAN PLUS**, Batch No. 001A130724, diluted in hard water, in the concentration 1% and the contact times 30 and 60 min and in the concentration 2% and the contact times 10 and 15 min under clean conditions at temperature 20 °C ± 1 °C by the dilution neutralization method **decreased** the number of spores *Bacillus subtilis* ATCC 6633*, *Clostridium difficile* ATCC 9689* by at least 4 (lg) orders.
*according to the client's request other microorganism and higher density were used

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According to ČSN EN 13704 the tested product **CHIROSAN PLUS**, Batch No. 001A130724, diluted in hard water, in the concentration 1% (after 36 h from the solution preparation) and the contact times 30 and 60 min and in the concentration 2% (after 36 h from the solution preparation) and the contact times 10 and 15 min under clean conditions at temperature 20 °C ± 1 °C by the dilution neutralization method **decreased** the number of spores *Bacillus subtilis* ATCC 6633*, *Clostridium difficile* ATCC 9689* by at least 4 (lg) orders.
*according to the client's request other microorganism and higher density were used

According to ČSN EN 14476+A1 the tested product **CHIROSAN PLUS**, Batch No. 001A130724, diluted in hard water, in the concentration 1% and the contact times 30 and 60 min and in the concentration 2% and the contact time 10 min under clean and dirty conditions at temperature 20 °C ± 1 °C **proved** by the method of virus titration on monolayers of cells on microtiter plates to reduce the number of infectious *Poliovirus* typ 1 LSc-2ab particles under defined conditions by at least 4 (lg) orders.

According to ČSN EN 14476+A1 the tested product **CHIROSAN PLUS**, Batch No. 001A130724, diluted in hard water, in the concentration 1% and the contact times 30 and 60 min and in the concentration 2% and the contact time 10 min under clean and dirty conditions at temperature 20 °C ± 1 °C **proved** by the method of virus titration on monolayers of cells on microtiter plates to reduce the number of infectious *Adenovirus* type 5, strain Adenoid 75, ATCC VR-5 particles under defined conditions by at least 4 (lg) orders.

According to ČSN EN 14476+A1 the tested product **CHIROSAN PLUS**, Batch No. 001A130724, diluted in hard water, in the concentration 0.5% and the contact time 30 min, in the concentration 1% and the contact time 10 min and in the concentrations 0.5% and 2% and the contact time 5 min under clean and dirty conditions at temperature 20 °C ± 1 °C **proved** by the method of virus titration on monolayers of cells on microtiter plates to reduce the number of infectious *BVDV* strain NADL ATCC-VR-534 particles under defined conditions by at least 4 (lg) orders.

According to ČSN EN 14476+A1 the tested product **CHIROSAN PLUS**, Batch No. 001A130724, diluted in hard water, in the concentration 0.5% and the contact time 30 min, in the concentration 1% and the contact time 10 min and in the concentrations 0.5% and 2% and the contact time 5 min under clean and dirty conditions at temperature 20 °C ± 1 °C **proved** by the method of virus titration on monolayers of cells on microtiter plates to reduce the number of infectious *Vaccinia virus* strain Elstree CAMP V-160 particles under defined conditions by at least 4 (lg) orders.

Conclusion:
The product **CHIROSAN PLUS** is capable of reducing the number of viable bacterial, mycobacterial and vegetative yeast cells of the relevant organisms under defined conditions to the declared values, and consequently, may be called bactericidal, mycobactericidal, tuberculocidal and yeasticidal.
The product **CHIROSAN PLUS** is capable of reducing the number of bacterial spores of *Bacillus subtilis* and *Clostridium difficile* under defined conditions to the declared values and, consequently, may be called sporicidal.
The product **CHIROSAN PLUS** is not capable of reducing the number of mould spores of the relevant organism under defined conditions to the declared values, and consequently, cannot be called fungicidal.
The product **CHIROSAN PLUS** is capable of reducing the number of infectious *Poliovirus* typ 1 LSc-2ab particles under defined conditions to the declared values, and consequently, may be called virucidal on *Poliovirus*. The product **CHIROSAN PLUS** is capable of reducing the number of infectious *Adenovirus* type 5, strain Adenoid 75, ATCC VR-5 particles under defined conditions to the declared values, and consequently, may be called virucidal on *Adenovirus*. The product **CHIROSAN PLUS** is capable of reducing the number of infectious *BVDV* strain NADL ATCC-VR-534 particles under defined conditions to the declared values, and consequently, may be called virucidal on *BVDV*. The product **CHIROSAN PLUS** is capable of reducing the number of infectious *Vaccinia virus* strain Elstree CAMP V-160 particles under defined conditions to the declared values, and consequently, may be called virucidal on *Vaccinia virus*.
11.3.2014, Hodonín

Zuzana Maňáková, Head of Laboratory

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