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TEST REPORT VALID ONLY WITH HOLOGRAM NUMBER*

**REPORT FROM A MICROBIOLOGICAL TEST
B-79866/37745/22**

THE TEST OF ANTI-MICROORGANISM PROPERTIES

Copy No. ¹.....

NAME OF THE TESTED PRODUCT: Z-WATER X-POWER

Name and address of the Client: Z-Water Polska Sp. z o.o., ul. Polna 17, 63-230 Witaszyce

Order No.: B-79866

of: 18.02.2022

The procedure of obtaining and/or delivering the product's sample for the test: The sample for the test was delivered by the Client. The Client is responsible for the appropriate taking of the samples supplied for the test. Condition of the sample at the moment of supplying for the test: good.

Description of the package: Commercial packaging: plastic bottle with a declared content of 500 ml with a dispenser in the form of a sprayer with a label on which the name and description of the product, method of use, ingredients and the name and data of the Manufacturer are given.

The condition of the package at the moment of delivering the sample to the Laboratory: good.

Sample No.: 37745

Date of starting the test: 22.02.2022

Date of finishing the test: 07.03.2022

Date of preparing the report: 31.03.2022

1. THE AIM/SCOPE OF THE TEST:

The aim of the study was to determine whether the tested preparation shows antibacterial activity against the following bacteria: *Staphylococcus aureus*, *Enterococcus faecalis*, *Pseudomonas aeruginosa*, *Escherichia coli*.

2. DESCRIPTION OF THE TEST

The tests were carried out in accordance with the norm:

PN-EN 13697:2015 + A1:2019 - *Chemical disinfectants and antiseptics – Quantitative non-porous surface test for the evaluation of bactericidal and/or fungicidal activity of chemical disinfectants used in food, industrial, domestic, and institutional areas - Test method and requirements without mechanical action (Phase 2, Step 2).*

3. EXPERIMENTAL CONDITIONS

a) Neutralizer

- D/E Neut Broth

b) Appearance product dilutions

- clear

c) Contact time:

- 5min. ±10s

d) Time of drying the test Surface

- 30 min

e) Incubation temperature

- 36 ° C ± 2° C

f) Incubation time

- 24-48h

g) Test organisms

- *Staphylococcus aureus* (ATCC 6538)
- *Enterococcus faecalis* (ATTC 19433)
- *Pseudomonas aeruginosa* (ATCC 9027)
- *Escherichia coli* (ATCC 10536)

5. TEST RESULTS

Strain	The number of living bacteria cells units/ml		The average reduction in the quantity [log]
	Testing with water	The tested preparation in 100% concentration V/V	
<i>Escherichia coli</i> (ATCC 10536)	$1,4 \times 10^5$	$3,5 \times 10^3$	1,62
<i>Staphylococcus aureus</i> (ATCC 6538)	$8,1 \times 10^5$	$7,3 \times 10^5$	0,05
<i>Enterococcus faecalis</i> (ATTC 19433)	$7,9 \times 10^5$	$4,9 \times 10^5$	0,21
<i>Pseudomonas aeruginosa</i> (ATCC 9027)	$1,1 \times 10^6$	$2,0 \times 10^3$	2,72

Photographs showing the antimicrobial activity of the test sample compared to the action of distilled water after 1-minute contact with the strain.

Photo. 1– Photos of cell reduction of the *Escherichia coli* strain (ATCC 8739)

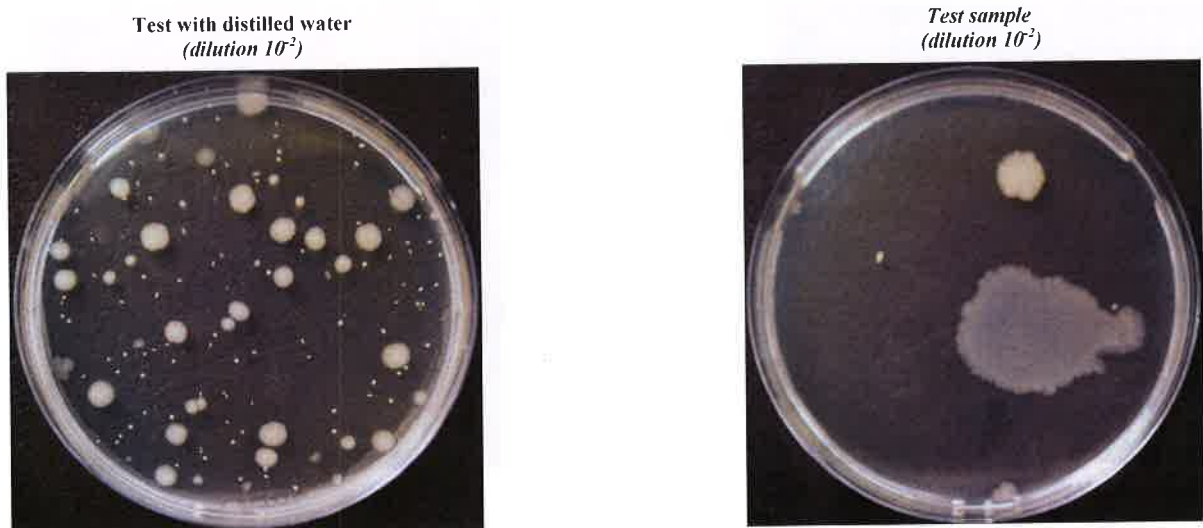


Photo. 2– Photos of cell reduction of *Staphylococcus aureus* strain (ATCC 6538)

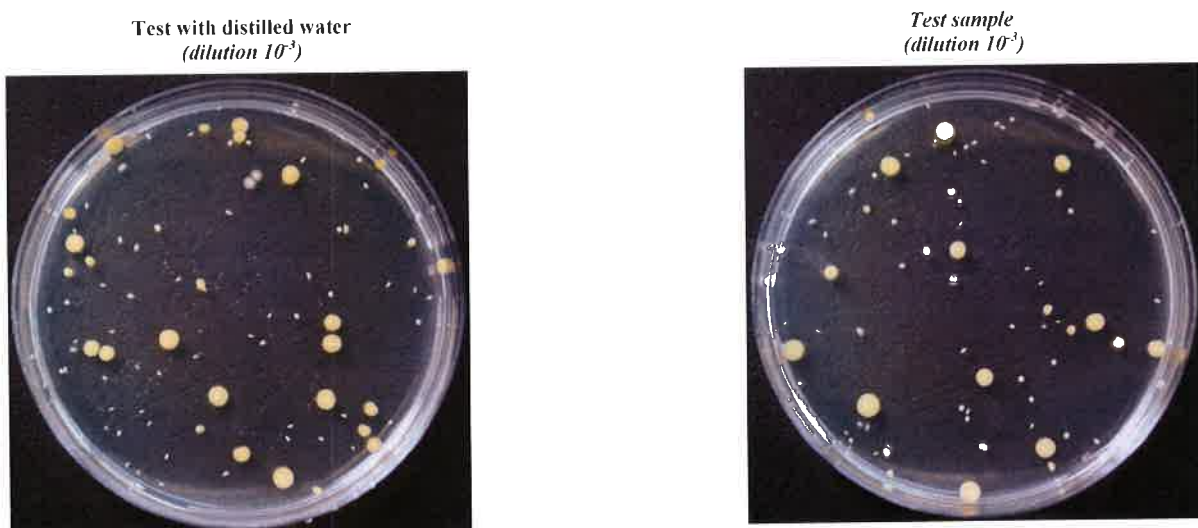
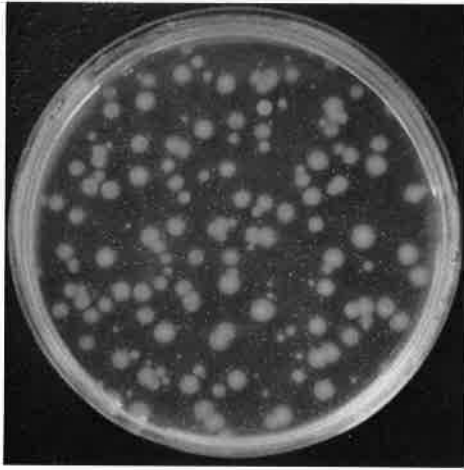


Photo. 3 – Photos of cell reduction of *Pseudomonas aeruginosa* strain (ATCC 9027)

**Test with distilled water
(dilution 10^{-2})**

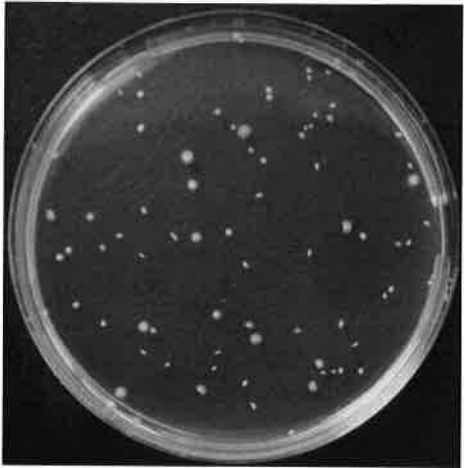


**Test sample
(dilution 10^{-2})**



Photo. 4 – Photos of cell reduction of the *Enterococcus faecalis* strain (ATTC 19433)

**Test with distilled water
(dilution 10^{-2})**



**Test sample
(dilution 10^{-2})**



4 CONCLUSIONS FROM THE TEST:

The **Z-WATER X-POWER** submitted for the test by **Z-Water Polska Sp. z o.o., ul. Polna 17, 63-230 Witaszyce** in 100% concentration demonstrates:

- **Good antibacterial effect in relation to the *Pseudomonas aeruginosa* (ATCC 9027) strain.** After 1 minutes of contact time with the product was 2.72log reduction of bacteria
- **Moderate antibacterial activity against to the *Escherichia coli* (ATCC 10536) strain.** After 1 minutes of contact time with the product was 1.62log reduction of bacteria
- **No antimicrobial activity on *Enterococcus faecalis* (ATCC 19433) i *Staphylococcus aureus* (ATCC 6538) strains.** After 1 minutes of contact time with the product was 0,05log and 0.21 log reduction of bacteria. The results obtained are within the limits of the inoculation error.

Antimicrobial assessment

Antimicrobial assessment	The average reduction [log]	The average percentage reduction [%]
none	< 0,5	< 68,4
slight	0,5 to < 1	68,4 to < 90
moderate	1 to < 2	90 to < 99
good	2 to < 3	99 to < 99,99
strong	≥ 3	≥ 99,99

The tests were performed in accordance with the rules of Good Laboratory Practice and the finishing report is consistent with the source data.
Test report valid only with hologram number
Series B number means that a valid report has 2 holograms

Name and signature of the person preparing the test report the:

Specjalistyczne Laboratorium Badawcze
ite-test
Emilia INTEREWICZ
Mikrobiolog



Name of the person authorizing test report:
Specjalistyczne Laboratorium Badawcze
ite-test

dr inż. Joanna ROMAN
Kierownik Pracowni badań mikrobiologicznych
Date and signature31.03.2022.....

Laboratory statement:

The uncertainty of the result is given when it is relevant to the reliability of the test results or compliance with the specified limit values and when it is agreed with the Client.

The report receive: Copy No. 1 – The Client; Copy No. 2 – Archives of the Laboratory „ITA - TEST”.

The sample of the tested product remains for a period of 7 days from the end of the tests, after which it is liquidated.

The test results refer only to the tested sample.

END OF REPORT

