Pūrgo
Bacterial Persistence

The study below tested how long a surface cleaned or treated with Purgo would remain hygienic.

Summary points include:

1. Purgo was still working after **4 days.**
2. During and until completion of the 4-day test, Purgo eradicated **99.9%** of a variety of strains including Staphylococcus, E-Coli, Listeria and Salmonella among others.

Scroll down to view the complete study*.

*Milouda Labs, Israel

מעבדות מילודע & מיגל
MILOUDA & MIGAL LABORATORIES
MERIEUX NutriSciences מקבוצת

28/6/2020

To– ECOTIV CLEAN

From – Milouda laboratories – Ronit Ben Avraham

Microbiological Test –

Chemical disinfectants and antiseptics - Quantitative carrier test For the evaluation of bactericidal and fungicidal activity for instruments used in the medical and food areas

Laboratory Number: 20055117

Sample description: PURGO – DISINFECTION SUSPENSION
Date sample received: 1/6/2020
Date Tested: 3/6/2020

1. **Standard:**
The test was conducted based on Israeli Standard 1944, BS EN 14561 "Evaluation of bactericidal activity" and AAMI TIR 12 (2010).

Test Purpose:
This test was conducted in order to define the antimicrobial effectiveness of the disinfectant preparation (PURGO).

Inoculation:

1.1 Stainless steel surfaces (4/4cm) were sterilized by steam.

1.2 The surfaces were inoculated with the following bacteria (four surfaces for each microorganism) –

Staphylococcus aureus	ATCC 6538
Pseodomonas aeruginosa	ATCC 9027
Escherichia coli	ATCC 8739
Aspergillus niger	ATCC 16404
Enterococcus faecalis	ATCC 51299
Lactobacillus plantrarum	ATCC 14917
Salmonella typhimurium	ATCC 14028
Enterobacter aerogenes	ATCC 13048

Remarks:
1. The laboratory operates under organized working procedures which correlate to the international standard ISO/IEC 17025 in those disciplines where accreditation has been granted.
2. The microbiological tests are within the recognition framework of the Ministry of Health as published in the registrations.
3. The results are related only to the tested sample.
4. This document may be referred to in its entirety, and no part may be quoted or copied to other documents.
5. Sampling was provided by and is the sole responsibility of the customer.
6. The Israel Laboratory Accreditation Authority is not responsible for the test results.
7. The valid results are those of the most updated report.

Gafta ISRAC Israel Laboratory Accreditation Authority ISO/IEC 17025 No. 078 מס
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Saccharomyces cerevisiae ATCC 51299
Listeria monocytogenes ATCC 19115
Bacillus atrophaeus spores ATCC 9372

The bacterial suspensions were diluted using soil (ATS - containing Proteins Healthmark (MI, US)) to give a final concentration of bacteria Of 10^5-10^6 per/surface (about 100 µl from each suspension was added To the soil according to cell turbidity).

1.3 One surface was not inoculated – negative control.

1.4 The surfaces were left to dry in biohazard hood for 30 minutes.

1.5 The surfaces were sprayed with the disinfection suspension and left in the biohazard for **4 days** and then tested.

2. Test Procedure:

2.1 Two surfaces before disinfection and cleaning for each microorganism were placed aseptically into sterile cups. 100 ml were added to each sample (Neutralizing solution lot 904) and vortexed for 1 minute and then the diluted sample was plated according to the pour plate technique using warm TSA (lot 949) or SDA (lot 16598) or APT (lot 16584).

2.2 The plates were incubated for 72 hours at 30-35^{0}C or 120 hours at 20-25 ^{0}C for yeasts and moulds. After incubation of the test plates, the Microorganisms were counted on each plate.

2.3 The remaining surfaces (two for each microorganism) were subjected to disinfection according to manufacturer's instructions (Spraying the surfaces with the tested sample). Two surfaces after disinfection were put into cups and 0.1 ml of Neutralizing solution was spread on each surface. The surfaces were then diluted with 10 ml (BPS+1% Tween 80 lot 16358) and vortexed for 1 minute.

2.4 Then the eluent was plated in the pour plate technique using TSA or SDA or APT. One surface was touched using rodac plates by (TSA +Lec +Polys 80)

2.5 The plates were incubated as defined in 2.1 and then the microbial count was determined per surface.

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3. Results:

Bacteria/Yeast/Mould	Before disinfection CFU/surface	After disinfection 30 seconds CFU/surface
P. aeruginosa ATCC 9027	1800 2600	<10 <1
S.aureus ATCC 6358	102,000 122,000	<10 <1
E.coli ATCC 8739	5600 2800	<10 <1
Aspergillus niger ATCC 16404	46,000 38,000	160 120
Enterococcus faecalis ATCC 51299	13,200 12,800	8600 9400
Lactobacillus plantrarum ATCC 14917	8200 6400	<10 <1
Salmonella typhimurium ATCC 14028	1,860,000 1,920,000	520 440
Enterobacter aerogenes ATCC 13048	13.200 10,400	2400 2200
Saccharomyces cerevisiae ATCC 51299	3400 2600	<10 <1
Listeria monocytogenes ATCC 19115	3600 3200	<10 <1
Candida albicans ATCC 10231	3400 2800	<10 <1
NC	<10	

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4. Conclusion:

According to the test results, the disinfection using **PURGO** in the presence of organic soil was able to reduce at least 3-5 magnitudes (99.9%) for *P.aeruginosa, L.plantarum, L.monocytogenes* , *S.aureus, S.typhimurium, C.*albicans, *S.cerevisiae* and *E.coli.*

A.niger, E.fecalis and *E.aerogenes* were reduced by two magnitudes.

**********End of Test Results**********

Authorized Signature: _____ **Preformed by:**_____

Amir Ben Avraham PhD
Professional Manager
Microbial Labratory

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