



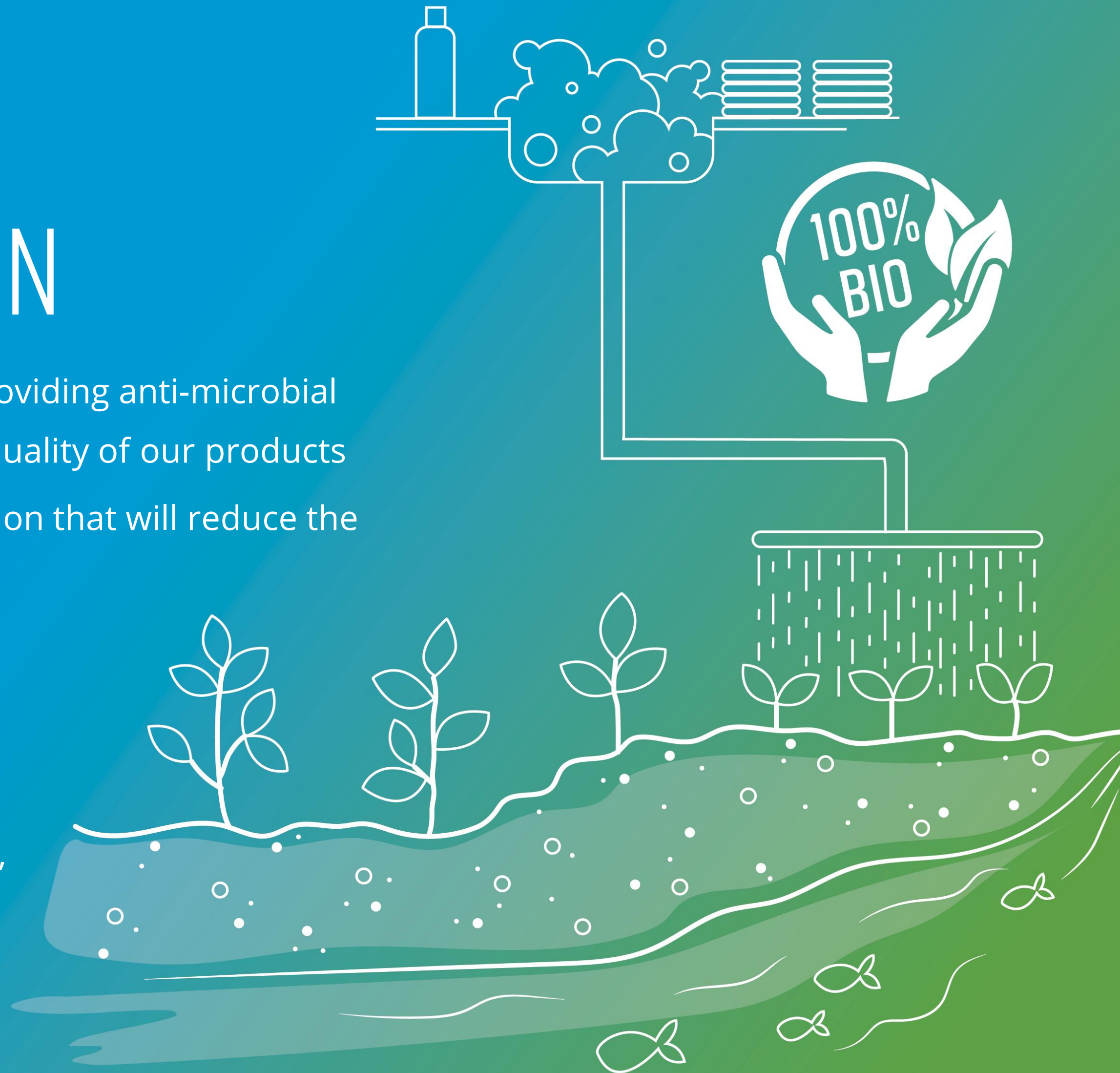
CLEANING INNOVATIONS FOR SUSTAINABLE LIVING

The very best of bio-engineering, eco-design, R&D and innovative manufacturing

MISSION & VISION

We strive to minimize the pollution footprint by providing anti-microbial cleaning solutions without chemical content. The quality of our products is in line with the new upcoming European legislation that will reduce the use of chemicals as they have negative impact on people and the environment.

Our Slogan is **THE POWER OF NATURE** - our bacterial components are taken from the nature, they clean, protect people and biodegrade back to the nature.





WHO ARE WE

Probiotec® is an international company from the Netherlands that introduces the concept of SMART CLEANING by producing purely natural, next-generation organic concentrated cleaning products of highest standards.

We utilize top-notch biotechnology research and development to deliver smart cleaning solutions for homes and industry.





SMART CLEANERS

SANITIZE - Our cleaning solutions clean and sanitize with 0% added chemicals. Dilutions 1:100.

MICROBIAL PROTECTION - Create protective antibacterial layer against microbial re-contamination.

ACTIVE – They remain active for 15 days after the cleaning.

RECYCLE - Less water consumption, waste water is clean of chemicals.

TRUSTY - Effective against bacteria, viruses, molds and fungi with low-cost per final diluted product.

SUSTAINABILITY & QUALITY

Probiotec[®] implements very strict policy for sustainable manufacturing following the principles of circular economy and industrial ecology:

- ✓ Maximum recycling
- ✓ Minimum waste creation
- ✓ Less water consumption
- ✓ Clean manufacturing inputs
- ✓ Healthy for people and the environment.



100 % NATURAL = 100 + BENEFITS

- ✓ All Probiotec® cleaners are 100% environmentally friendly
- ✓ All Probiotec® cleaners are based on Class.1 EU / GRASS US - positive probiotic bacteria - safe for the people and the environment
- ✓ All Probiotec® cleaners are completely bio-degradable, non-pollutant, non-abrasive, non-flammable, non-allergenic and safe for use in food-contact environments.



CLEANING MECHANISM

When using Probiotec[®] products, **NO BACTERIA (BAD OR GOOD) ARE KILLED.** Just the bad/pathogenic bacteria (Escherichia coli, Pseudomonas aeruginosa, Candida albicans, Staphylococcus aureus , Aspergillus niger etc.), viruses (SARS-Cov-2) and molds are neutralized and removed from surfaces or skin by means of **COMPETITIVE EXCLUSION.**

Large number of good bacteria are reducing and replacing the bad ones (pathogens).

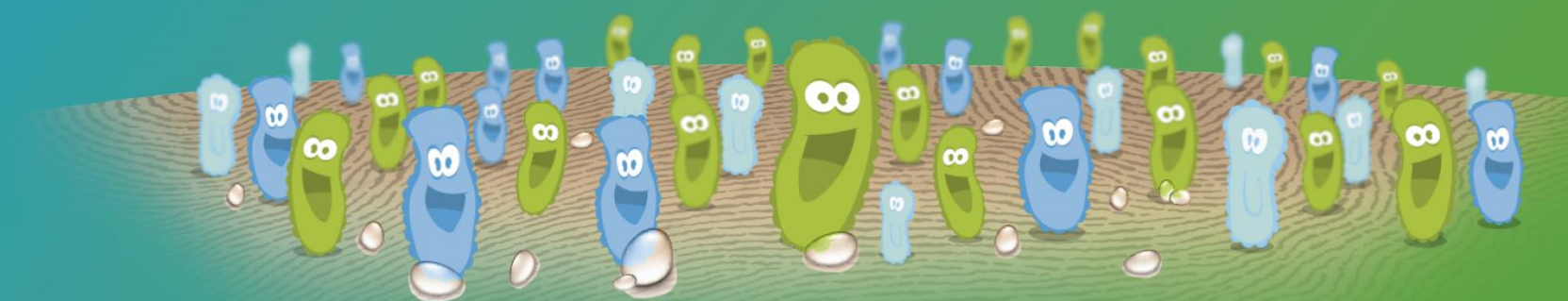
Surfaces are not re-populated by bad bacteria due to the created protective biofilm lasting up to 30 days.



CLEANING PROCESS

STEP 1 – Application of good (probiotic) bacteria on a surface
Probiotics populate the surface & tackle the dirt & pathogen (bad) bacteria, the number of bad bacteria starts to decrease.

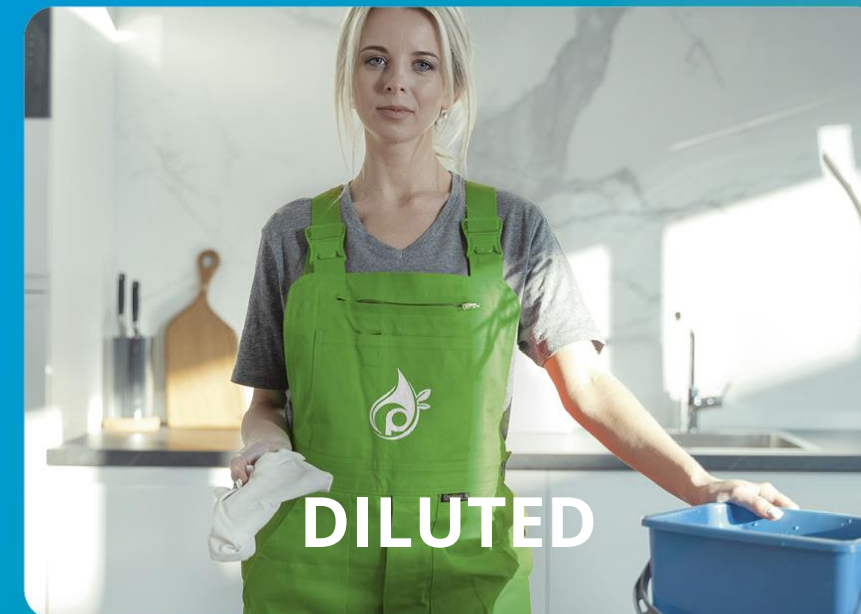
STEP 2 – The process of dirt degradation is completed and the bad bacteria neutralized. Formation of a biofilm of good bacteria to stop re-microbialization of the clean surface and protect from new pathogens.



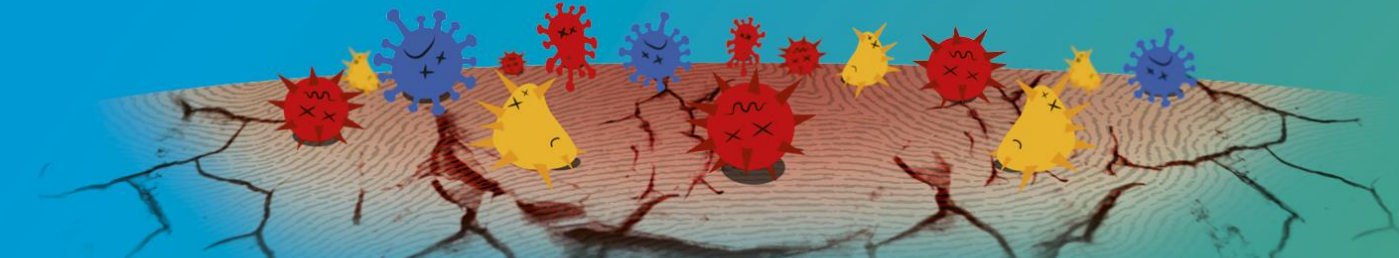


THE POWER OF PROBIOTICS

THEY PROTECT US FROM
THE BAD BACTERIA, ARE
CAPABLE OF BREAKING
DOWN POLLUTANTS AND
ARE ABLE TO REMOVE THE
SOURCES OF BAD ODOR AT
MICRO-LEVEL



PROBIOTEC vs CHEMICAL CLEANERS



PROBIOTEC® CLEANERS

CHEMICAL CLEANERS

Anti-bacterial	Neutralizes 95% of pathogenic bacteria in 5 days with long-lasting protection up to 30 days. Protection effect increases when us in continuity.	Kills main bacteria including good ones, bad bacteria become resistant to chemicals, they repopulate the surface in 1 hour.
Anti-alergenic	No reaction to skin, no gloves needed	Can provoke redness, dry skin, itching, can contain sodium, alcohol, ethanol etc. Wear gloves!
Anti-corrosive	Harmless for surfaces	Can cause surface corrosion
Anti-abrassive	Harmless for surfaces	Can cause abrasions and surface damage
Anti-explosive	Harmless for handling	Can be explosive under certain conditions and temperatures
Non-toxic	Non-toxic to humans, animals and the enviroment. No pollution treat	Toxic when handled, inhailed or discharged into the enviroment. Very polluting to enviroment and auqatic life.
Vegan	Yes	No
Bio-degradable	Completelly	Maybe only partially
Production process	Nature friendly	Polluting with hazards to the environment



COV-X

The revolution in hand hygiene. Probiotec® COV-X protects against the corona virus / sars-cov-2. It is a ready to use organic and vegan spray that is perfect for daily use.

- ✓ Tested on Corona
- ✓ Safe for children
- ✓ Antibacterial tested
- ✓ After-protection
- ✓ World-wide patent
- ✓ 100% natural



MR. PROBI

Mr. Probi is the only machine that cleans, disinfects and protects your hands and the hands of your visitors in a fully automatic way with 100% natural handspray.

- ✓ Neutralizes dirt, odor and germs
- ✓ Moisturizing
- ✓ Non-allergenic
- ✓ Long-lasting residual protection





SARS-COV-2 EFFICIENCY TEST - RESULTS AFTER HANDSPRAY PRODUCT APPLICATION



TLR
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ROTTERDAM

Analytical Report

Probiotec B.V.
Attn: Johan van Overveld
Wijkorenstraat 3
4706 PM Roosendaal
Netherlands

Reportnr. : 1102408 version 1
Product recognized as :
Product Specification : Handspray, Probiotics + water + bio geur
Reference :
AWB / BarCode : JVGL0615586500000324
Packing : Plastic, ambient
Sample Type : Hold Sample
Seller Unloader : Probiotec
Shipping Date : 28-Aug-2020

Disponent Number :
Sampling Date : 28-Aug-2020
Sample size (kg) : 0,527
Sealed / Seal Code : No /
Sample Arrival Date : 29-Aug-2020 12:40
ReportDate Version : 10-Sep-2020 11:23
Origin : Netherlands
Lot/Coil Number : 104/20

Genetic Determination	Common	Parameter	Result (as received)
SARS-CoV-2			Not detected

0 - Determined

Requested 29-Aug-2020 by Probiotec B.V.
Analyses according to annex
Drs. Ing. H. Janssens Director TLR International Laboratories

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TLR
ANALYSE

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ANNEX

Method Descriptions

Genetic Determination

Common

Method Description

Determination of SARS-CoV-2

Abbreviations:

acc: in accordance with
eq: Equivalent to

Method Code
PCR

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TEST RESULTS PROBIOTEC® COV-X

- ✓ Cosmetic licence EU reg.nr. CPNP 3477859, Reg. EC 1223/2009
- ✓ Tested on SARS-Cov-2 (corona) PRC test by TLR Int. labo
- ✓ Tested according to ISO11930, ISO17025:2017, ISO22716
- ✓ Hand disinfection test EN1500:2013 & EN1499:2013
- ✓ Dermatological & anti-bacterial tested
- ✓ EU class 1 2000/54/EC

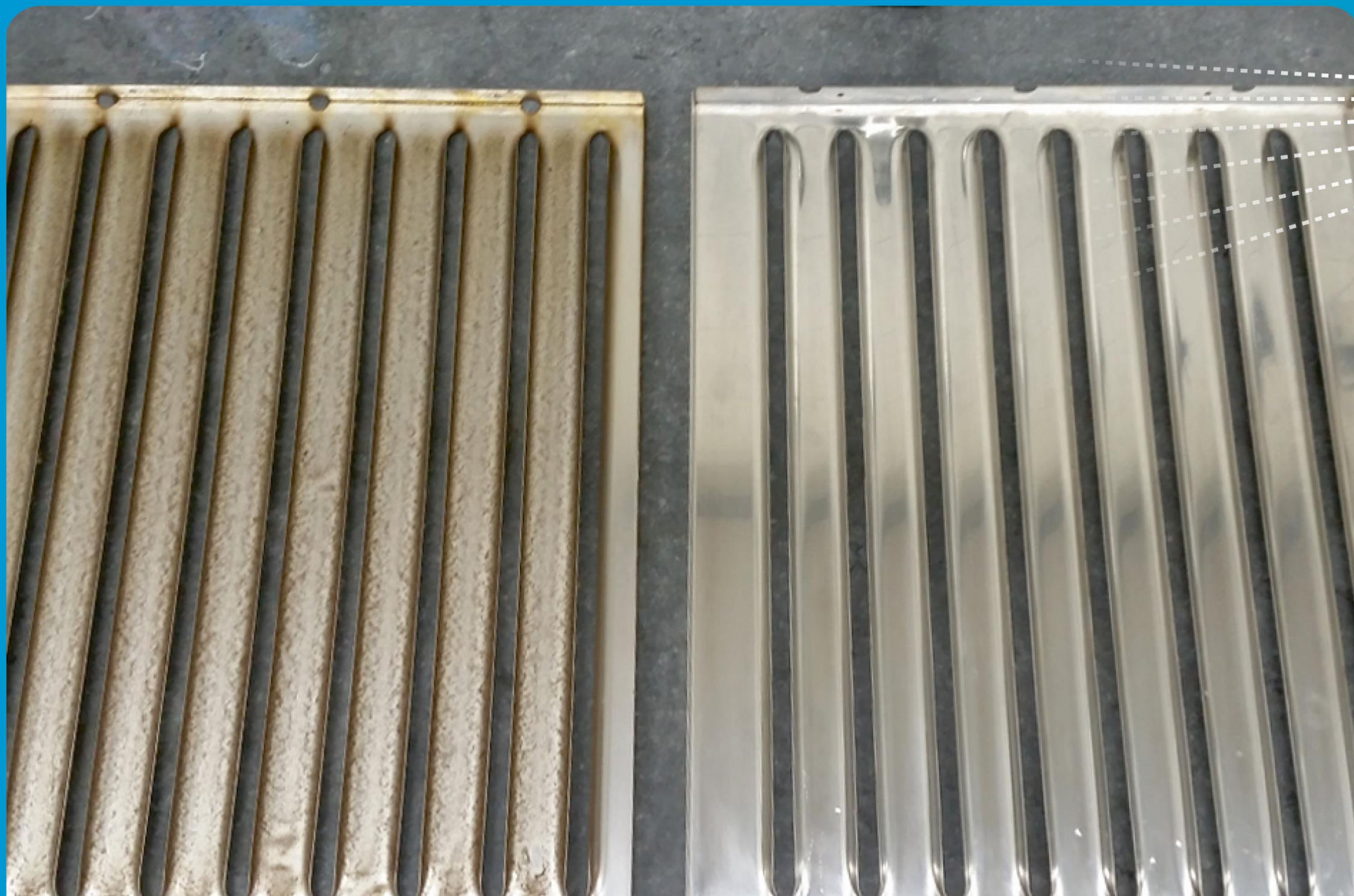


ANTI-DUST MITE

- ✓ Concentrated, non-chemical biological product for mattresses, linen and fabrics such as upholstery, carpets, textiles, etc.
- ✓ Neutralizes sources of allergic reactions
- ✓ Removes the microbial source of unpleasant odors like sweat and urine.
- ✓ Creates a protective antibacterial layer that is effective for 7 days.
- ✓ Completely natural and vegan product with multiple health and eco benefits. Completely biodegradable. PH neutral ~ 7.



HORECA/DEGREASER/BBQ IN PRACTICE



PRODUCTS

We have developed efficient cleaning & protection products for various sanitation purposes:

PERSONAL

- ✓ Handsoap
- ✓ Handspray
- ✓ Facemask spray



HEMEARE

- ✓ Multicleaner
- ✓ Floor cleaner
- ✓ Sanitary
- ✓ Deblocker
- ✓ Toilet gel
- ✓ Degreaser
- ✓ Kitchen
- ✓ Handsoap
- ✓ Inox
- ✓ Window

OUTDOOR

- ✓ Natural stone cleaner
- ✓ Barbecue
- ✓ Odor
- ✓ Oil remover
- ✓ Anti-fungal



ANIMAL CARE

- ✓ Kennel
- ✓ Urinestop
- ✓ Anti-odor



CARWASH

- ✓ Handwash
- ✓ Prewash
- ✓ Mainwash
- ✓ Interior





TEST RESULTS

TRIAL AT THE UNIVERISTY LABO

We populated the test surfaces with 1,5xE6 (CFU/ml) of different microbs, then applied our Multicleaner and followed for 5 days.

The complete test results are shown on the next slide.

START	1.500.000 CFU/
DAY1	71.000 CFU/
DAY2	8.000 CFU/
DAY3	200 CFU/
DAY4	50 CFU/
DAY5	11 CFU/ 99.9993%

TEST RESULTS MULTI-CLEANER

The number of Colony forming units (CFU/ml) measured during 5-day tests / University lab

FLOOR (MULTICLEANER DILUTION WITH TAP WATER IN RATIO 1:10)	START OF THE TEST	1ST DAY	2ND DAY	3RD DAY	4TH DAY	5TH DAY	TOTAL REDUCTION 5 DAYS (%L)
Positive control / Reference nr. of colonies	1.500.000 CFU/ml	1.500.000 CFU/ml	1.500.000 CFU/ml	1.500.000 CFU/ml	1.500.000 CFU/ml	1.500.000 CFU/ml	/
Escherichia coli ATCC 8739	1.500.000 CFU/ml	130.000 CFU/ml	8.000 CFU/ml	200 CFU/ml	50 CFU/ml	11 CFU/ml	99,999267 %
Pseudomonas aeruginosa ATCC 9037	1.500.000 CFU/ml	160.000 CFU/ml	5.000 CFU/ml	100 CFU/ml	20 CFU/ml	15 CFU/ml	99,999 %
Staphylococcus aureus ATCC 6538	1.500.000 CFU/ml	4.000 CFU/ml	2.000 CFU/ml	120 CFU/ml	50 CFU/ml	<13 CFU/ml	99,99913 %
Candida albicans ATCC 10231	1.500.000 CFU/ml	180.000 CFU/ml	7.600 CFU/ml	100 CFU/ml	41 CFU/ml	<15 CFU/ml	99,999 %
Aspergillus niger ATCC 16404	1.500.000 CFU/ml	200.000 CFU/ml	18.000 CFU/ml	2.200 CFU/ml	250 CFU/ml	<31 CFU/ml	99,998 %
FLOOR (MULTICLEANER DILUTION WITH TAP WATER IN RATIO 1:20)	1.500.000 CFU/ML	1ST DAY	2ND DAY	3RD DAY	4TH DAY	5TH DAY	TOTAL REDUCTION 5 DAYS (%L)
positive control / Reference nr. of colonies	1.500.000 CFU/ml	1.500.000 CFU/ml	1.500.000 CFU/ml	1.500.000 CFU/ml	1.500.000 CFU/ml	1.500.000 CFU/ml	/
Escherichia coli ATCC 8739	1.500.000 CFU/ml	1.300.000 CFU/ml	140.000 CFU/ml	12.000 CFU/ml	250 CFU/ml	<300 CFU/ml	99,98 %
Pseudomonas aeruginosa ATCC 9037	1.500.000 CFU/ml	1.100.000 CFU/ml	90.000 CFU/ml	21.000 CFU/ml	3.100 CFU/ml	<45 CFU/ml	99,997 %
Staphylococcus aureus ATCC 6538	1.500.000 CFU/ml	940.000 CFU/ml	82.000 CFU/ml	6.200 CFU/ml	4.500 CFU/ml	<300 CFU/ml	99,98 %
Candida albicans ATCC 10231	1.500.000 CFU/ml	980.000 CFU/ml	56.000 CFU/ml	9.100 CFU/ml	530 CFU/ml	<55 CFU/ml	99,9963 %
Aspergillus niger ATCC 16404	1.500.000 CFU/ml	200.000 CFU/ml	150.000 CFU/ml	9.500 CFU/ml	830 CFU/ml	<76 CFU/ml	99,995 %
DESK (MULTICLEANER DILUTION WITH TAP WATER IN RATIO 1:10)	1.500.000 CFU/ML	1ST DAY	2ND DAY	3RD DAY	4TH DAY	5TH DAY	TOTAL REDUCTION 5 DAYS (%L)
positive control / Reference nr. of colonies	1.500.000 CFU/ml	1.500.000 CFU/ml	1.500.000 CFU/ml	1.500.000 CFU/ml	1.500.000 CFU/ml	1.500.000 CFU/ml	/
Escherichia coli ATCC 8739	1.500.000 CFU/ml	114.000 CFU/ml	10.000 CFU/ml	400 CFU/ml	80 CFU/ml	<13 CFU/ml	99,99913 %
Pseudomonas aeruginosa ATCC 9037	1.500.000 CFU/ml	16.700 CFU/ml	6.000 CFU/ml	300 CFU/ml	20 CFU/ml	<17 CFU/ml	99,999 %
Staphylococcus aureus ATCC 6538	1.500.000 CFU/ml	5.000 CFU/ml	2.200 CFU/ml	140 CFU/ml	65 CFU/ml	<14 CFU/ml	99,999 %
Candida albicans ATCC 10231	1.500.000 CFU/ml	193.000 CFU/ml	9.000 CFU/ml	300 CFU/ml	50 CFU/ml	<10 CFU/ml	99,99931 %
Aspergillus niger ATCC 16404	1.500.000 CFU/ml	230.000 CFU/ml	3.000 CFU/ml	2.000 CFU/ml	240 CFU/ml	<30 CFU/ml	99,998 %
DESK (MULTICLEANER DILUTION WITH TAP WATER IN RATIO 1:20)	1.500.000 CFU/ML	1ST DAY	2ND DAY	3RD DAY	4TH DAY	5TH DAY	TOTAL REDUCTION 5 DAYS (%L)
positive control / Reference nr. of colonies	1.500.000 CFU/ml	1.500.000 CFU/ml	1.500.000 CFU/ml	1.500.000 CFU/ml	1.500.000 CFU/ml	1.500.000 CFU/ml	/
Escherichia coli ATCC 8739	1.500.000 CFU/ml	1.230.000 CFU/ml	150.000 CFU/ml	10.000 CFU/ml	244 CFU/ml	<300 CFU/ml	99,98 %
Pseudomonas aeruginosa ATCC 9037	1.500.000 CFU/ml	1.000.000 CFU/ml	110.000 CFU/ml	21.500 CFU/ml	3.180 CFU/ml	<42 CFU/ml	99,998 %
Staphylococcus aureus ATCC 6538	1.500.000 CFU/ml	960.000 CFU/ml	80.000 CFU/ml	6.250 CFU/ml	4.300 CFU/ml	<38 CFU/ml	99,998 %
Candida albicans ATCC 10231	1.500.000 CFU/ml	950.000 CFU/ml	58.000 CFU/ml	9.000 CFU/ml	515 CFU/ml	<52 CFU/ml	99,9963 %
Aspergillus niger ATCC 16404	1.500.000 CFU/ml	500.000 CFU/ml	180.000 CFU/ml	9.700 CFU/ml	850 CFU/ml	<72 CFU/ml	99,995 %



EFFICIENCY TEST OF PROBIOTEC® CLEANERS

highly effective and fast-acting (0-20 minutes)

CONCENTRATION	ORIGINAL MULTICLEANER/MULTICLEANER PRO					1:10 DILUTED MULTICLEANER/MULTICLEANER PRO				
CONTACT TIME (MIN)	0	3	5	10	20	0	3	5	10	20
Escherichia coli ATCC 8739	1.500.000	1.100.000	900.000	600.000	45.000 (97%)	1.500.000	1.250.000	1.100.000	840.000	74.000 (95,1%)
Pseudomonas aeruginosa ATCC 9037	1.500.000	1.100.000	900.000	600.000	45.000 (97%)	1.500.000	1.250.000	1.100.000	840.000	76.000 (94,95%)
Staphylococcus aureus ATCC 6538	1.500.000	1.000.000	750.000	450.000	32.000 (97,9%)	1.500.000	1.110.000	940.000	510.000	30.000 (98%)
Candida albicans ATCC 1023	1.500.000	1.200.000	1.000.000	700.000	51.000 (96,6%)	1.500.000	1.280.000	1.060.000	890.000	79.000 (94,7%)
Aspergillus niger ATCC 16404	1.500.000	1.300.000	1.100.000	750.000	55.000 (96,33%)	1.500.000	1.470.000	1.330.000	1.000.000	63.000 (95,8%)

MULTICLEANER TEST-REDUCTION OF BACTERIA IN FOOD PROCESSING ENVIRONMENT



TABLE SLAUGHTERHOUSE	AVERAGE NUMBER OF TOTAL NUMBER OF BACTERIA (CFU/CM ²)	AVERAGE NUMBER OF YEAST AND MOLDS (CFU/CM ²)
Before application of Multicleaner	439	175
AFTER 30 min of application of Multicleaner	338	116
% of reduction	23%	33,71%
AFTER 60 min of application of Multicleaner	122	52
% of reduction	72,20%	70,28%
AFTER 24h of application of Multicleaner	48	28
% of reduction	89%	84%

Probiotec[®] cleaners are
proven agents for

- ✓ Cleaning and maintaining
the hygiene in food
processing facilities
- ✓ Safety of people
- ✓ Economic and
ecological benefits
- ✓ Lower infections
- ✓ Safe and secure working
area

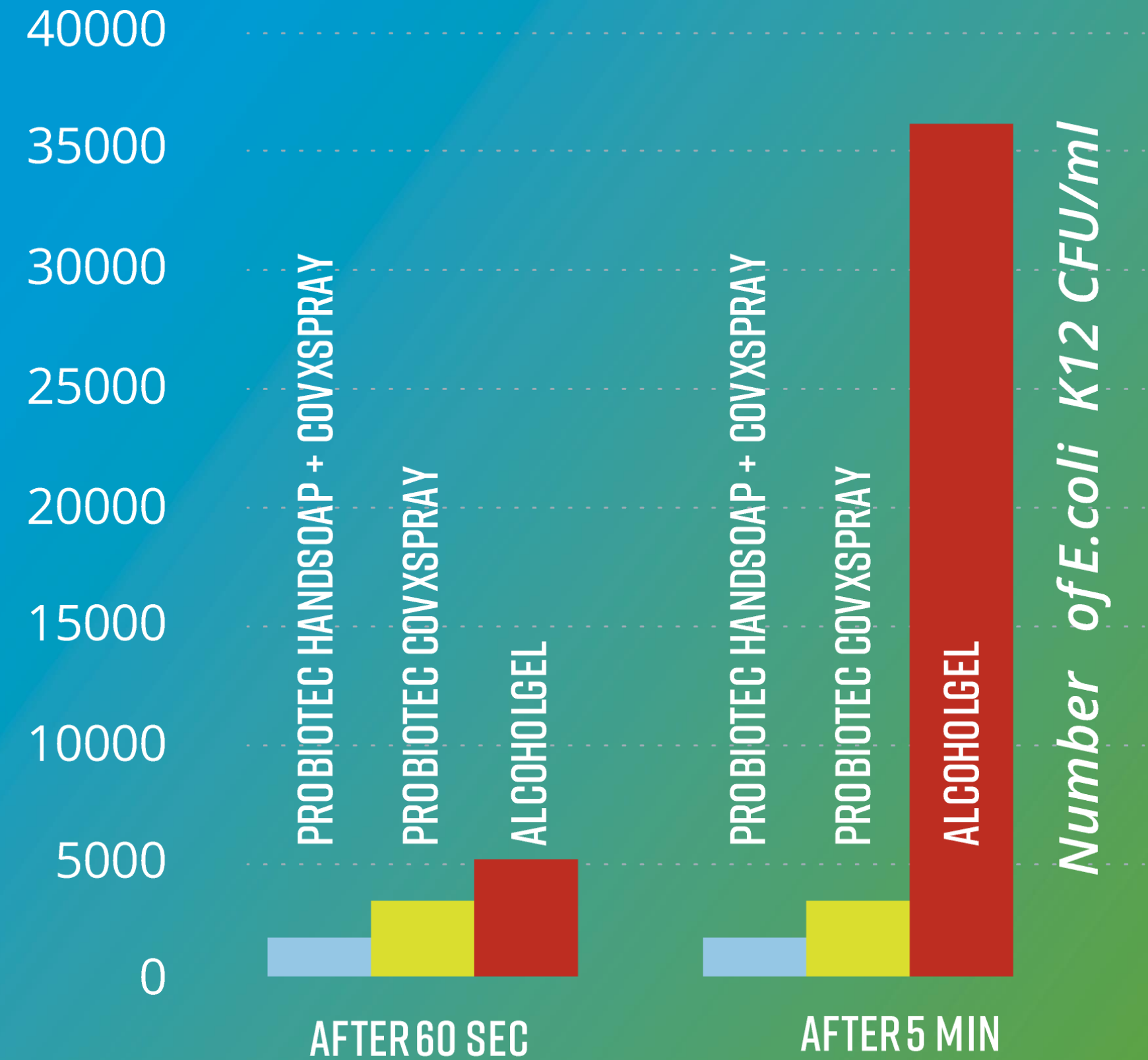
TEST RESULTS

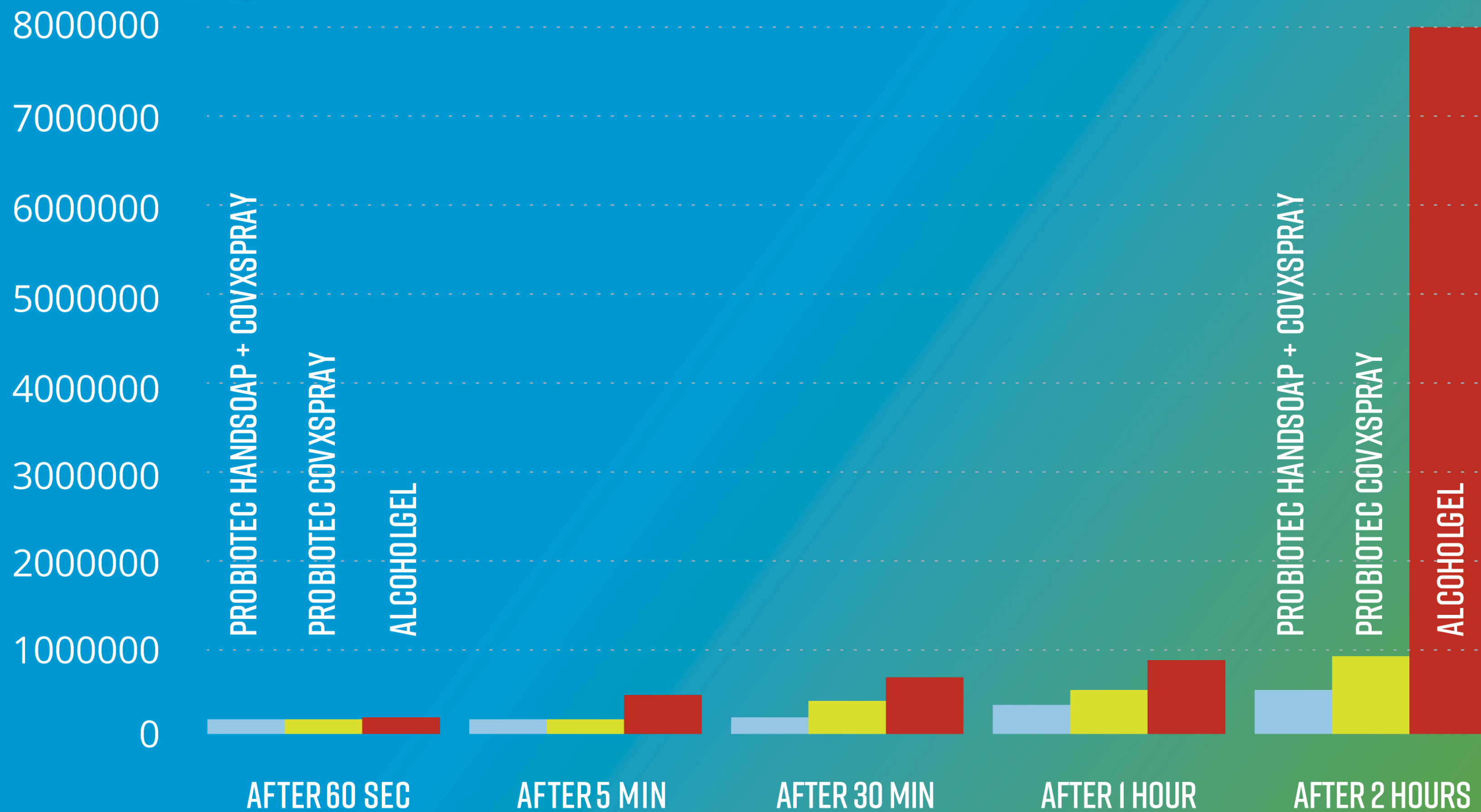
SOFT SURFACE / SKIN:

HANDSOAP EU **EN1499 TEST** &

HAND SPRAY EU **EN 1500 TEST**

The complete test results are shown on the next slide.





SOFT SURFACE / SKIN: HANDSOAP EU ENI499 TEST & HAND SPRAY EU EN 1500 TEST

MEAN NUMBER OF 20 VOLUNTEERS/ BOTH HANDS

mean CFU ml-1 E. coli- prevalues		3*E8
log prevalues		8.4771212
probiotic-based hand soap	mean CFU ml-1 E. coli after probiotic-based hand soap- postvalues	6*E4
	log postvalues	4.778151
	mean CFU ml-1 E. coli reduction	5*E3
	log reduction	3.6989702
% REDUCTION		99.98%
non-antimicrobial soft soap	mean CFU ml-1 E. coli after non-antimicrobial soft soap - postvalues	2*E6
	log postvalues	6.30102999
	mean CFU ml-1 E. coli reduction	1.5*E2
	log reduction	2.17609121
% REDUCTION		99%

HAND-WASH EU ENI499 TEST 60 SEC. EFFICIENCY

MEAN NUMBER OF 20 VOLUNTEERS/ BOTH HANDS

mean CFU ml-1 E. coli- prevalues		7.61*E7
log prevalues		7.078814187
probiotic-based hand spray	mean CFU ml-1 E. coli after probiotic-based hand spray- postvalues	2.41*E3
	log postvalues	3.381163
	mean CFU ml-1 E. coli reduction	4.98*E3
	log reduction	3.697651187
% REDUCTION		99.997%
propan-2-ol 60% (v/v)	mean CFU ml-1 E. coli after propan-2-ol 60% (v/v)- postvalues	3.63*E3
	log postvalues	3.559851
	mean CFU ml-1 E. coli reduction	3.3*E3
	log reduction	3.518963
% REDUCTION		99.9%

HAND-RUB EU ENI499 TEST 60 SEC. EFFICIENCY

BUSINESS & CORPORATE

STRENGTHS

- ✓ Product lifecycle is fully in-house
- ✓ Stable product quality
- ✓ Widest product range
- ✓ Continuous R&D

BIZZ POTENTIAL FOR GROWTH

- ✓ Open market (only 1,5 % marketshare on eco products and only 0,15% on probiotics so far)
- ✓ Annual total market value cleaning products is 400 Billion US\$.



BUSINESS & CORPORATE

Probiotec[®] cooperates with numerous high-level laboratories, research-centers and academia, such as:



Research Center for
Genetic Engineering
and Biotechnology –
“Georgi D. Efremov”,
Macedonian Academy
of Sciences, Skopje,
North Macedonia



Belgium Coordinated
Collection of
Microorganisms,
Department of
Biochemistry and
Microbiology, University
of Gent, Belgium



Institute of Biology-
Department of
Microbiology and
Microbial Technology,
University Ss. Cyril and
Methodius, Skopje,
North Macedonia



TLR International
laboratories –
Rotterdam, The
Netherlands



ProHealth Medical
Laboratorium –
Nederweert,
The Netherlands



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