

**Disinfection
SYSTEM**
for
FOOD PROCESSING AREAS





THE PURESPEC INNOVATION

provides stable and sustainable solutions in the field of disinfection

It is an innovative indoor air and surface disinfection system based on hydrogen peroxide technology, which has no impact on the environment.

Effective in low doses with the main advantage being the quick reuse of areas that have already been disinfected.

Nebulizes at room temperature without any residual moisture.

It disinfects in a simple and easy way as the product decomposes into water and oxygen during the final stage of application.



THE PURESAPCE INNOVATION

provides stable and sustainable solutions in the field of disinfection

It provides solutions for any need regarding the size of the space (covering from 50 to 5,000 cubic meters).

Inexpensive method, easy to use with stable, repeatable results, without requiring specialized personnel for the application.

Current international standards define a full range of spectrum such as bactericidal, viricidal, fungicidal and sporicidal.



- Antiallergic
- Non-toxic
- Odorless
- Harmless to humans

THE PURESPEC INNOVATION

provides stable and sustainable solutions in the field of disinfection

The device:

Weight: 10 kg

With wheels for easy transport.

Type of manufacture:

Entirely made of high-quality aluminium material

- Electronic display screen
- Electric turbine: 1200 watts
- Bottle capacity: 5 L
- Adjustable nebulization volume (50 ml = 5 lt)
- Connection through SMART DEVICE
Electronic display screen operating all functions remotely via mobile or tablet, providing usage data.



PURESPACE

Food Disinfectant Solution

Innovative disinfectant solution specific for the food industry based on hydrogen peroxide. Alternatively, solutions for nonfood usage are reinforced with positive silver ions.

The synergistic action of the two components of the system allows nebulizing a dry fog with a very high biocidal efficiency in the environment.

Its gas properties enable it to go in all corners on all surfaces present in the environment.





PURESPACE

How the system works

Three distinct phases, one flawless process:

Phase 1

The solution turns into a dry mist of micro-droplets (0.3 to 0.5 μm) containing hydrogen peroxide molecules evenly distributed throughout the space and surfaces. This creates a submicron coating with remarkable biocidal efficacy.

Phase 2

The TM biological stabilizers enhance the biocidal effect, and immediately, the hydrogen peroxide begins attacking all the organic substances that it comes into contact with, which inactivates viruses, bacteria, spores, fungi, and bio-film found in the air and on surfaces. This ensures a long-term biocide effect.

Phase 3

The free radicals formed by hydrogen peroxide are quickly converted to oxygen without leaving harmful residues in the air. After a short period of time, the disinfected areas can be reused.

PURESPACE

Scientifically proven disinfection technology

Key Performance Indicators

- Safety system to prevent the introduction of toxic particles into the air
- Full range of actions (bactericidal, viricidal, fungicidal and sporicidal), as defined by applicable standards
- Very easy to program and operate. No specialized personnel required
- The small size of the droplets allows for the coverage of all surfaces, including hidden places inaccessible to conventional disinfection methods.
- It disinfects both the air and all surfaces simultaneously.
- Nebulization at room temperature: no risk of oxidation and corrosion
- The system is light and portable
- Guarantees consistent, efficient results since It does not depend on the individual operator (as long as fogging times are adhered to).

Advantages

- No intervention required during treatment and nebulization of the product
- Greater effectiveness with low dosage
- Less time & cost-effective
- Allows the disinfection of even larger spaces (5L / 5000 m³ **)
- Allows the quick reuse of spaces that have already been disinfected (time varies depending on the type of treatment applied)
- Electronic devices can remain in the room during the disinfection treatment
- The nebulization process can last anywhere from a few minutes to 2.5 hours for 5000 m³
- The antimicrobial effectiveness of this product has been fully tested on a range of micro-organisms
- Species of micro-organisms tested , (indicative but not exhaustive list)



PURESPACE

Thoroughly Tested Efficacy

Indicatively, microorganisms that have been tested

- Pseudomonas aeruginosa
- Staphylococcus aureus
- Methicillin-resistant Staphylococcus aureus (MRSA)
- Escherichia coli
- Enterococcus hirae
- Candida albicans
- Aspergillus niger
- Clostridium difficile
- Mycobacterium avium
- Acinetobacter baumannii
- Enterococcus faeciumvre
- Salmonella thyphimurium
- Listeria monocytogenes
- Bacillus subtilis
- Poliomyelitis virus 1lsc-2ab
- Adenovirus 5
- Klebsiella pneumoniae
- Candida glabrata



PURESPACE

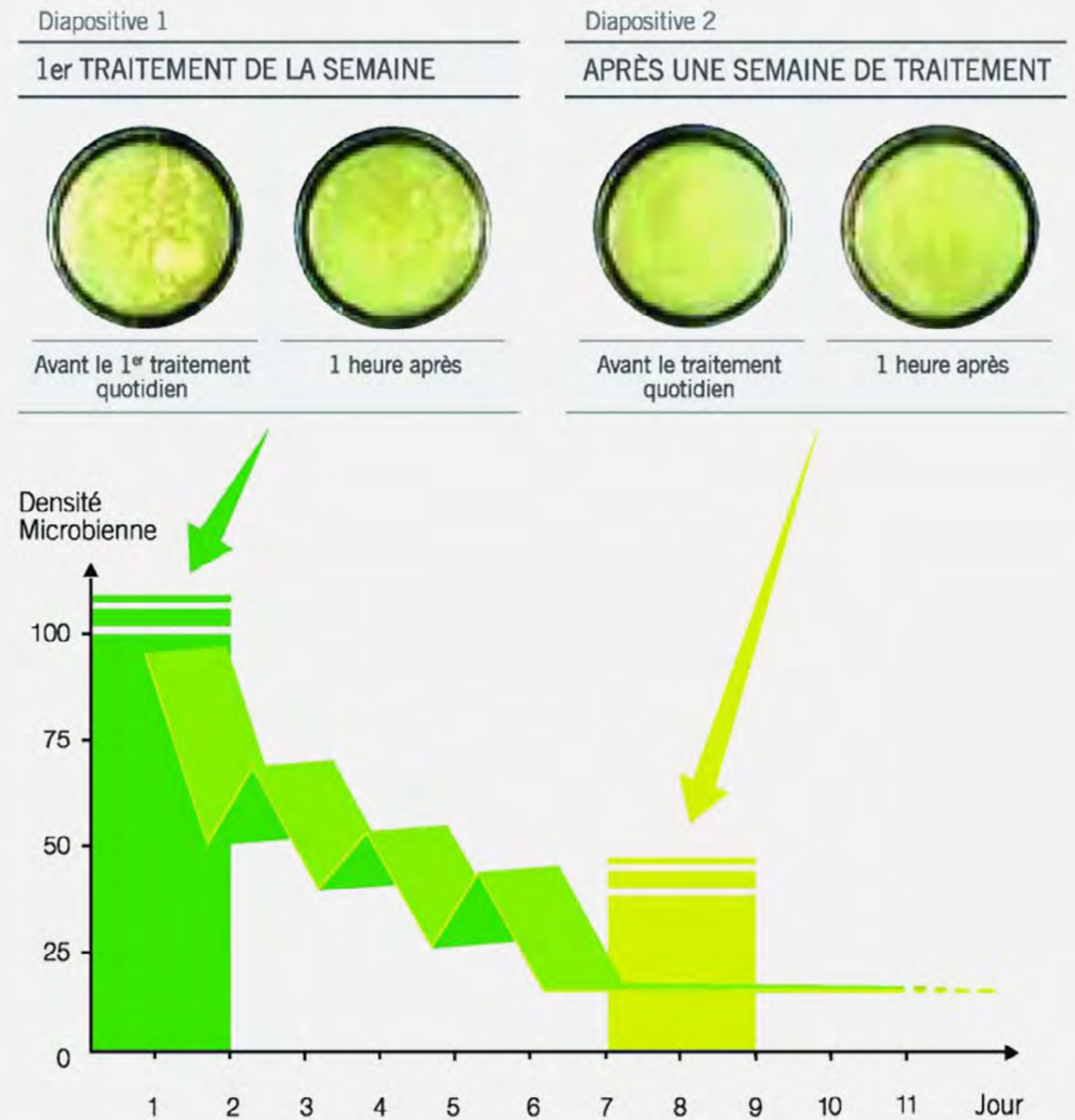
Thoroughly Tested Efficacy

Several illustrations

From the diagram it appears that with daily application with PURESPACE the microbial load is continuously reduced to undetectable levels.

Daily preventive application reduces the risk of biofilms formed by microorganisms which may remain active after disinfection. Its daily use is not associated with the development of resistance to the disinfectant.

In the event of a high microbial load, therapy utilizing a solution with a high concentration of peroxide (12%) can be administered, followed by a daily preventive treatment with a solution containing 8% concentration.



PURESPACE

Efficient Recycling Time

Minimal duration necessary for a room to be reused-
time for air dispersion is contingent upon

SPEED : Application in minimum time

Trucks: $10 \text{ m}^3 = 30 \text{ seconds}$

Room: $50 \text{ m}^3 = 1,5 \text{ minute}$

Room: $100 \text{ m}^3 = 3 \text{ minutes}$

Room: $500 \text{ m}^3 = 15 \text{ minutes}$

Room: $1000 \text{ m}^3 = 30 \text{ minutes}$

Cycle Time = time of formation of aerosol + waiting time re-
quired to reuse the disinfected areas

A model showcasing its application: preventive treatment
for a 50m^3 space:

- Diffusion Time: 1,5 min.
- Contact time: 30 min.
- Total disinfection time required: 31,5 min.



PURESPACE

Very easy to use

- Just enter the volume of the room you want to disinfect
- A very small amount of product is required: 1 ml of product is enough to disinfect 1m³
- No preparation of the space is necessary before disinfecting it (apart from cleaning it) and no action is required after application (there is no need to wipe the surfaces)
- The treatment takes place in two stages: Diffusion through the device for a specific time, the contact time set for the disinfectant to act
- Stops automatically





PURESPACE

FOOD INDUSTRY SECTOR

The disinfection process is crucial in the food industry. At the end of each day's production, all equipment that comes into contact with food, as well as the production areas and the air, must be disinfected to reduce the levels of microorganisms below the detection limit.

The effectiveness of disinfection is assessed through various methods - this is both a legal requirement and a requirement of the relevant standards, such as ISO 22000 and GFSI standards (BRC and IFS), as well as multinational companies that have their own internal protocols.

In the food industry, cleaning plans comprise several stages that involve foaming and rinsing with chlorinated alkaline and acidic chemicals (for instance, in the meat industry). However, in certain cases involving the bakery industry, water cannot be used.

PURESPACE

FOOD INDUSTRY SECTOR

Purespace technology can be complementary in the former case, and fully replaces other disinfection methods in the latter case. The daily disinfection of equipment and space (including contact surfaces and food processing machines) is essential to get rid of pathogenic microorganisms that result from potential contaminations, as well as those microorganisms that cause spoilage (related to the endogenous microbial flora of the food), and which decrease the lifespan of the food product. These microorganisms are especially difficult to inactivate, with insufficient studies conducted to identify them to a specific level.

Purespace technology has an added advantage over conventional disinfection methods, given that it disinfects the air and surfaces simultaneously. The dry cloud of hydrogen peroxide molecules generated is able to penetrate all parts of the equipment and deactivate pathogenic and allopathogenic microorganisms.

For complex equipment, dry spray disinfection is required, as this effectively disinfects all hidden points that might pose a threat to the product. Daily contamination prevents the formation of biofilms, which can be detrimental to the food industry and are formed in cases of ineffective disinfection and are very difficult to combat.



PURESPACE

FOOD INDUSTRY

In cases of high initial microbial contamination, a treatment with a 12% hydrogen peroxide solution precedes, while daily applications follow with an 8% concentration solution.

The efficacy of the **Purespace** procedure lies in its concise disinfection cycle and swift restoration of spaces for production processes. A 1000 cubic meter disinfection cycle involves a mere 30 minutes of fogging and 30 minutes of chemical degradation, rendering the entire process less than an hour in duration and not requiring specialized personnel. Notably, our product is ideally suited for the food industry due to its complete biodegradability and non-existence of residual effects. This unlocks the possibility of utilizing it on food contact surfaces and equipment without any rinsing necessary after the spraying dries.

At **Purespace**, we present ingenious solutions adapted to each industry's requirements and microorganism profiles to maximize the efficiency of the process. The ensuing outcome is the production of safe food, free of pathogenic microorganisms, alongside products exhibiting stable organoleptic traits for extended periods, consequently minimising quality complications related to microbial spoilage.

Furthermore, the scope of our product's application is quite extensive, ranging from various service sectors, including catering facilities and restaurants, public transportation, office spaces, gyms, and highly frequented public facilities. Coupled with the rising interest in home care, our disinfection system for homes is another area of focus. Finally, the corporate sector can greatly benefit from incorporating microbially controlled spaces into their facilities. By controlling the microbial load, the quality of life significantly improves.



PURESPACE

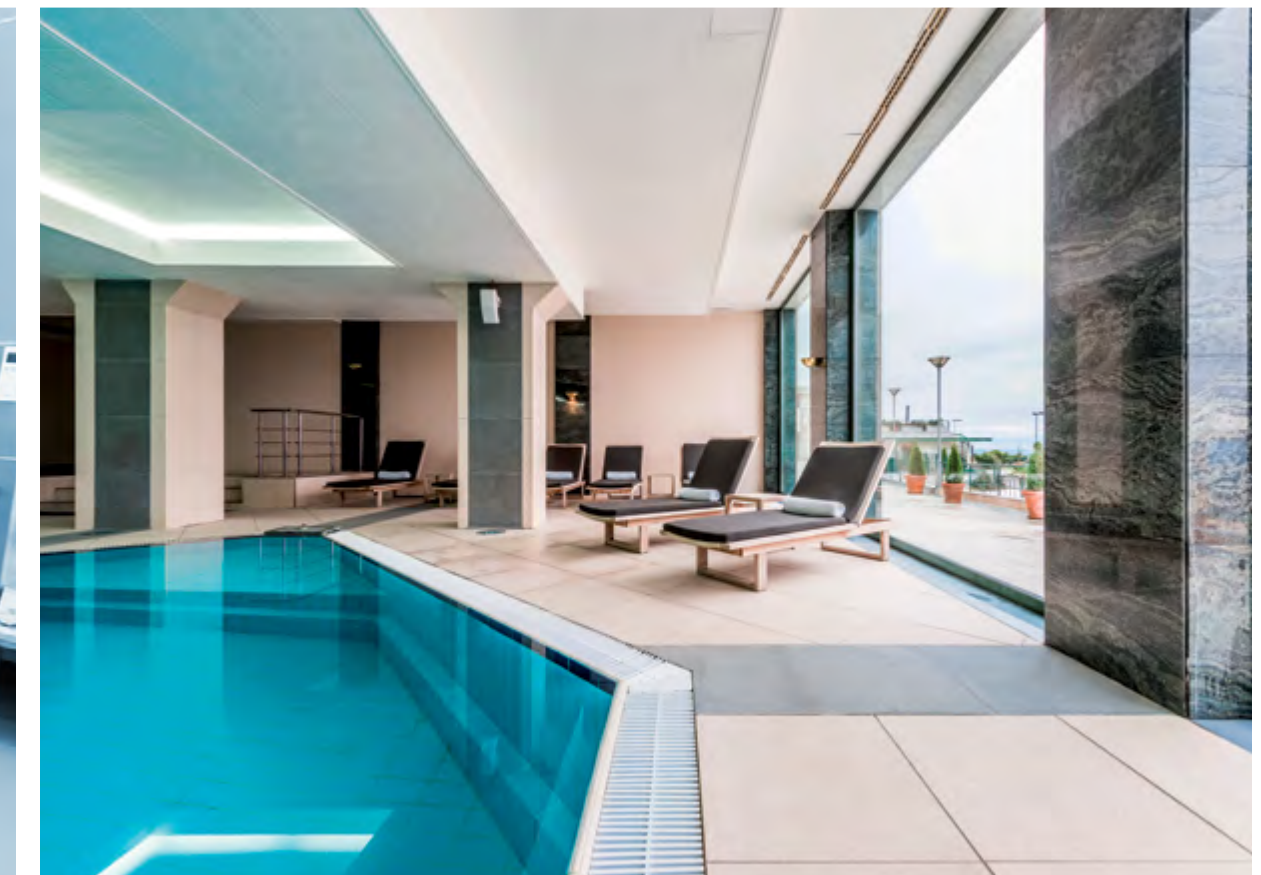
DIFFERENT SERVICE SECTORS

The control of the microbial load improves the quality of life in **public places**

The disinfection system is also ideal for applications in hospitals, clinics, public transport, office spaces, shops, gyms, spas, schools, nurseries, and high-traffic areas.

In addition to catering facilities, restaurants, pastry/bakery workshops and food warehouses.

In healthcare facilities, the system effectively covers the ever-increasing and stricter requirements.



PURESPACE

CERTIFICATIONS & TESTS

The solution is certified as: **European biocide device**

The solution provides bactericidal, virucidal, sporicidal and fungicidal activity In accordance with the protocols issued under
NF T 72 281 (May 2009)
NF EN 1040
NF EN 1275
NF EN 1276
NF EN 1650
NFT72180

Efficacy tests have been performed by independent laboratories on all major families of bacteria and viruses.





www.purespace.gr