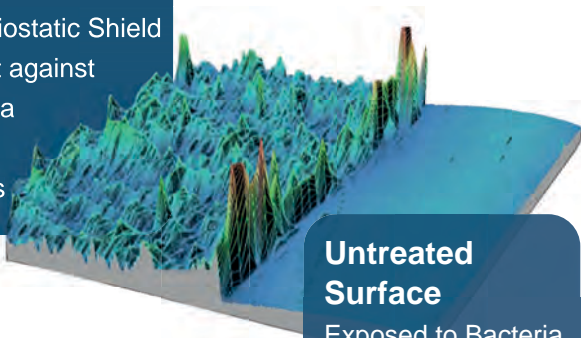


BioProtect SA™ Technology

**BioProtect SA™
Treated Surface**
Microbiostatic Shield
Protect against
Bacteria
and
Viruses



**Untreated
Surface**
Exposed to Bacteria
and Viruses

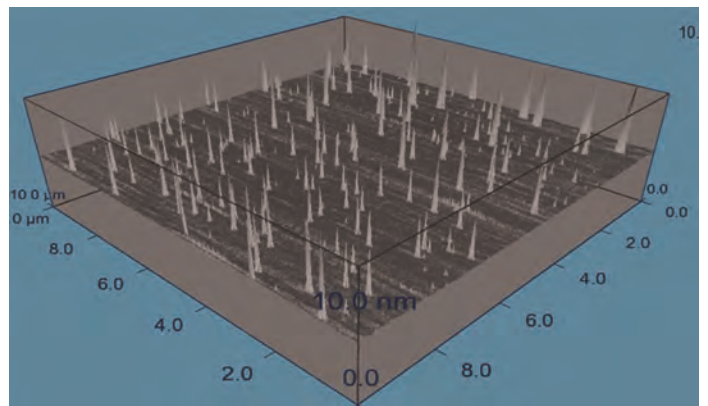
The BioProtect SA™ Technology

The BioProtect SA™ technology is a registered trademark in South Africa, NOSA test approved, Intertek Tested to modify surfaces, providing such surfaces with disinfection and durable long-term antimicrobial protections that kills and inhibits the growth of problematic bacteria, fungi, algae, protozoans, viruses and other microorganisms that can exist on surfaces.

BioProtect SA™ Fast Facts

When applied to a surface or integrated into the manufacturing cycle, BioProtect SA™ builds a covalent bond with the surface, producing a resistant microbiostatic antimicrobial coating. This coating generates a nano-bed shield of spikes (self-assembling monolayer).

By carrying a positive charge, the coating attracts the bacteria. Once the bacteria are drawn in, the molecular spikes puncture the cell wall and burst the cell membrane, causing the bacterial microorganism to be disrupted and eliminated.



Surface Protected with BioProtect SA™



UNRIVALED SAFETY PROFILE

Water based, patented technology, use ZERO triclosan, heavy metals or poisons.



RESIDUAL LONG TERM EFFICACY

Persistently & continuously protects surfaces for up to 30 days.



UNMATCHED VERSATILITY

Can be applied to a wide variety of porous and non-porous surfaces.



LARGE SPECTRUM PERFORMANCE

Effective against bacteria and viruses

BioProtect SA™ Fast Facts



BioProtect SA™ is ground-breaking Antimicrobial Technology that creates a Microbiostatic Shield on porous and non-porous surfaces, destroying bacteria on contact for up to 30 days after application.



BioProtect SA™ is water-based, non-toxic to humans and animals, contains no harmful chemicals or heavy metals, and is bound to the surface (substrate) meaning it cannot leach into the surrounding environment and is foggable in interior environments.



Good material compatibility with alcohol-sensitive materials, such as acrylic glass, ultrasonic probes, examination chairs and disinfection of non-invasive medical devices and medical areas.

BioProtect SA™ Key Application



Think of BioProtect SA™ as the “Slat” of antibacterial efforts – you can use it on almost any substrate and immediately improve it.

Non-porous surfaces:

- Odour control for example pets, rubbish and vehicles
- Mold, mildew, and allergen control
- Food preparation surfaces, machines, utensils, cookers
- Staff rooms, Canteens, receptions, playrooms
- Gym equipment

Porous surfaces:

- Sportswear, footwear and related textile



- Laundry sanitation and longevity
- Hospitality linens and living areas
- Carpets, Upholstery
- Hospital linens, bedding, curtains, blinds

In the Manufacturing of:

- Plastics and metals (effective for the life of the product)
- Medical devices including implants
- Woven and non-woven fabrics
- Substrates intended for aquatic environments

Not only is BioProtect SA™ more effective than most cleaning products on the market, it also helps prevent mutation of adaptive germs while continuing to actively protect the treated surface in dry state for up to 30 days.



Super Bugs

Many people have heard stories of the supergerm created by the percentage of surviving germs that antibacterial soaps can't kill. They haven't however headed the facts to back it up.



People Infected

The CDC reported in September that annually, in the US alone, at least million people become infected with bacteria that are resistant to antibiotics.

People Die

At least 23,000 people die each year as a direct result of these infections.



Most home and commercial cleaning products available produce an initially high microorganism kill rate if applied correctly, but they also rely on toxic harmful chemicals or heavy metals to do so.



These poisons and heavy metals also do not have lasting antimicrobial effects and therefore allow the surviving germs to mutate the creation of antibacterial-resistant's "supergerms".

BioProtect SA™ is and is not



- Odourless
- Colourless
- Persistent – works in DRY STATE
- Water-based
- pH balance and hydrophobic
- Environmentally Responsible
- No VOC's
- Safe



- Toxic to humans or animals
- Leaching or migrating
- Flammable
- Corrosive
- Made of harmful toxic chemicals, poisons, phenols, or heavy metals

Why BioProtect SA™

Antimicrobial Technologies	BioProtect SA™	METHANOL THEHNOLOGY	SILVER ION THEHNOLOGY
Passed FDS cytotoxicity	Yes	No	No
Cost	Affordable	Modderate RR	Modderate RRR
Superbug Preventative	Yes	Yes	No
Kill Method	Non-Leaching kills by piercing & rupturing the cell membrane of each microbe	Non-Leaching kills by piercing & rupturing the cell membrane of each microbe	Leaching uses ions to disrupt processes and kill microbes
Safety	Safe for humans & the environment, no poison, toxic chemicals or heavy metals are used	Toxic physical & chemical hazards Avoid discharge into drains	Can cause permanent skin discoloration

Commercial



Protect your clients, your employee's health and your investment by providing a new standard of clean when your commercial facility is protected with BioProtect SA™.

Household



Protect your most valuable asset, your family, pets and your home form harmful bacteria and germs by getting your home protected with BioProtect SA™.

Surface treatment for improved inhibition of microbial surface colonization: laboratory to real-world application

Gideon Wolfaardt^{1,2}, Marelize Botes^{1,2}, Elanna Bester¹, Dan Foucher², Lukas Porosa²

¹Dept of Microbiology and Water Institute, Stellenbosch University, South Africa, and Department of Chemistry and Biology, Ryerson University, Toronto, Canada

Surface-attached sulfonamide containing quaternary ammonium antimicrobials for textiles and plastics

Alexander Caschera, a Kamlesh B. Mistry, Joseph Bedard, a Evan Ronan, Moiz A. Syed, a Aman U. Khan, Alan J. Lough, b Gideon Wolfaardt^c and Daniel A. Foucher

UV-Curable Contact Active Benzophenone Terminated Quaternary Ammonium Antimicrobials for Applications in Polymer Plastics and Related Devices, 2017

Lukas Porosa, Alexander Caschera, Joseph Bedard, Amanda Mocella, Evan Ronan, Alan J. Lough, Gideon Wolfaardt, and Daniel A. Foucher,

2011 Application for Health Canada Registration

Wolfaardt, G.M., and D.A. Foucher. 2011. Antimicrobial efficacy testing: Pathene 500, containing 3 (Trimethoxysilyl)-propyldimethyloctadecyl ammonium chloride, TGAI, Submission No: 2009-1808. Registration documentation to Pest Management Regulatory Agency, Health Canada

