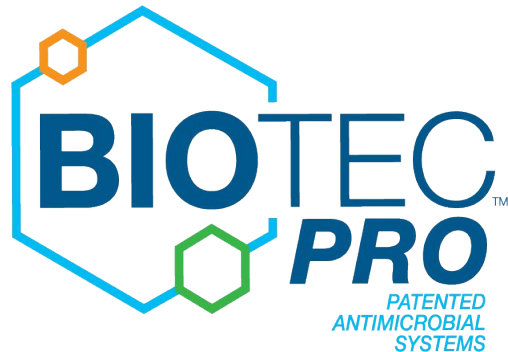




VIACLEAN
TECHNOLOGIES

The
BIOPROTECTUs™
System



ABOUT US

Established in January 2018, ViaClean Technologies LLC is a Philadelphia based biotech with a focus on the continued development of safe, innovative and environmentally responsible solutions to traditional cleaning technologies. ViaClean believes that life on this planet is precious, and has a breakthrough antimicrobial technology, BIOPROTECT™, to address the blatant problems plaguing current cleaning solutions.



AGENDA

- ViaClean Technologies and the BIOPROTECTUs™ System
- Microbiology Basics
- The BIOPROTECTUs™ System Products
- SmartTouch® Disinfectant and Competitors
- BIOPROTECT™ Antimicrobial and Competitors
- BIOPROTECTUs System Application; Equipment, Assess & Test, Application



MISSION

The Challenge:

Common surfaces (touch-points) are cleaned with poisonous disinfectants leaving behind no effective residual protection and within hours of disinfection, bacteria will grow exponentially presenting risk to re-infect occupants of the environment.

The Goal:

Revolutionize current cleaning protocols by supplementing a proven antimicrobial solution treatment, to help prevent the known issue; the affect of bacteria on surfaces from a sublethal residual which allow microbes to adapt or build resistance.



MISSION

The Solution:

The BIOPROTECTUs™ system

An array of GLP tested, EPA registered and FDA compliant technologies that provide disinfection and long-term antimicrobial surface protection that kills and inhibits the growth of problematic bacteria, viruses and other microorganisms, preventing biofilm proliferation on all applied surfaces.

BIOPROTECT™

Patented, revolutionary antimicrobial that creates a microscopic shield on porous and non-porous surfaces to destroy bacteria on contact with residual protection, even for surfaces that, post treatment, are immersed in water.





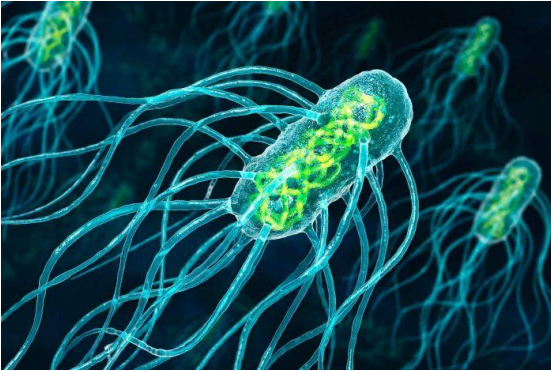
The
BIOPROTECTUs™
System

Microbiology

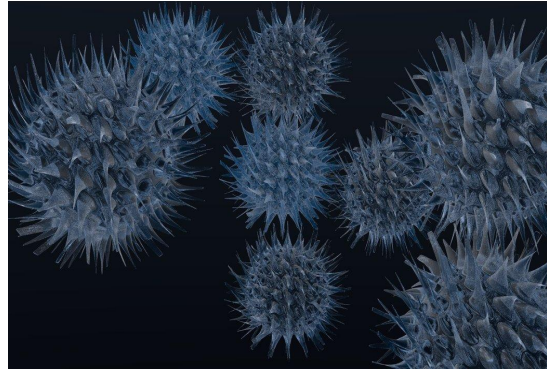
Basic Introduction

MICROBIOLOGY

Types of Micro-organisms



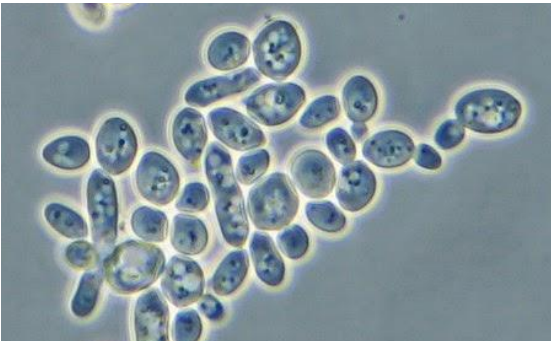
Bacteria



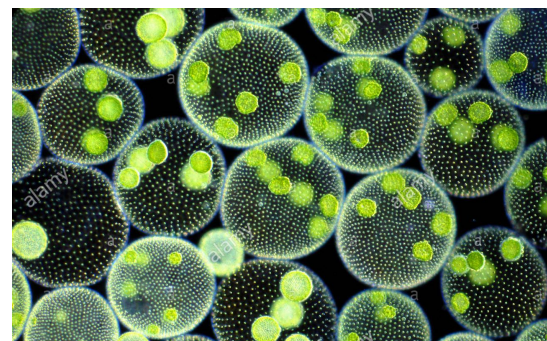
Viruses



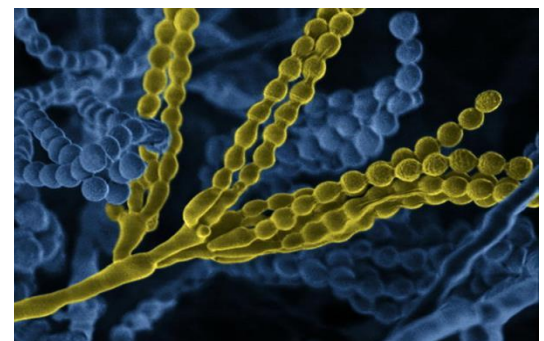
Mold & Mildew



Yeast



Algae



Fungi

MICROBIOLOGY

The Basics

All living things, including microorganisms like germs, need an environment where they can survive, thrive and reproduce.

Just like us they need:

- The correct temperature



- Moisture



- Oxygen



- “Food” Source



MICROBIOLOGY

ADAPTIVE ORGANISMS aka SUPERBUGS

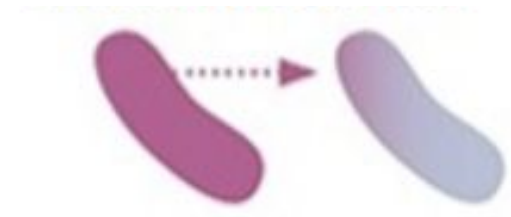
Lots of microbes. A few are adaptive organisms (superbugs).



These adaptive organisms are now able to grow & take over.



Some microbes pass their drug resistance to other microbes causing additional problems.



MICROBIOLOGY

What is Biofilm?

Biofilm is a thin, slimy film of bacteria that adheres to a surface



MICROBIOLOGY

Biofilm Development

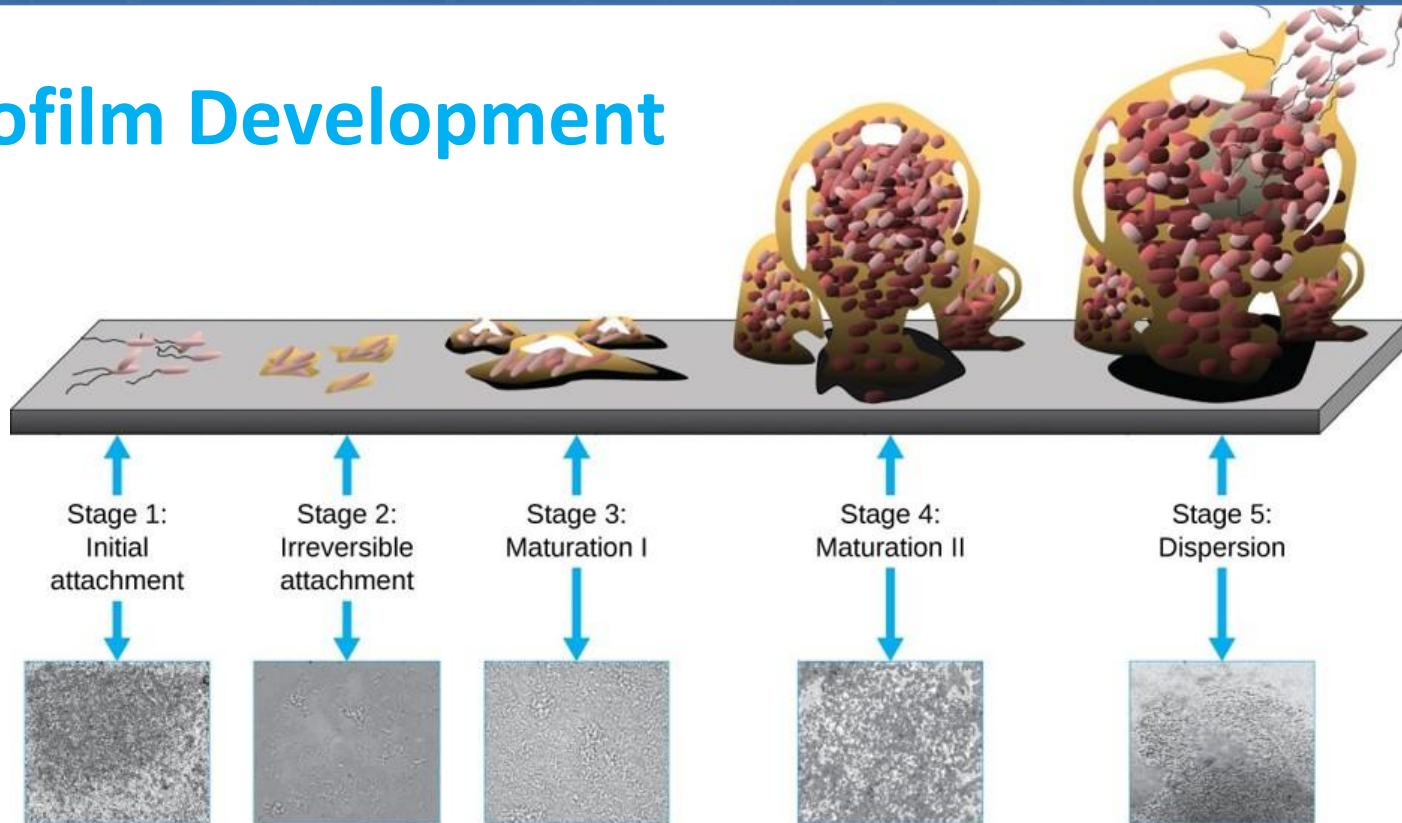
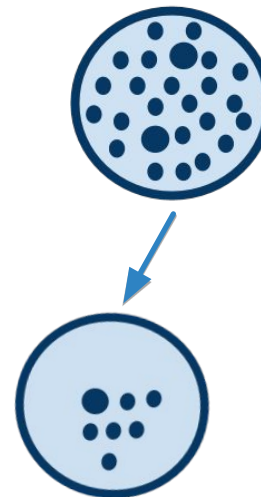
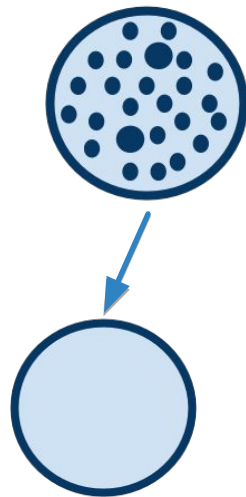


Diagram showing five stages of biofilm development of *Pseudomonas aeruginosa*. All photomicrographs are shown to same scale.

MICROBIOLOGY

Disinfectants vs. Sanitizers

Disinfectants	Sanitizers
Eliminates/Kills all of the microorganisms	Reduces the number of microorganisms



MICROBIOLOGY

Microorganism Transfer – common touchpoints



Carpets

HVAC Systems

Smart Phone

Doorknobs

Faucets

Light Switches

Elevator Buttons

Bathroom Sinks

Bathroom Showers

Linens

Towels

Uniforms

Cleaning Cloths

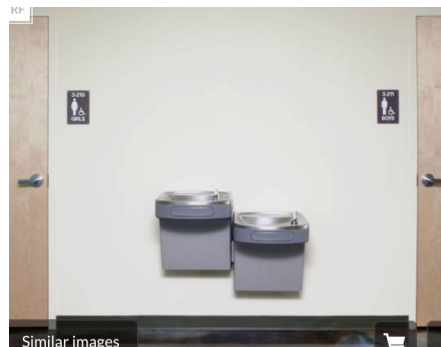
Mops

Sponges

Footwear

Preparation Areas

Any area subject to moisture



Similar images



The
BIOPROTECT**Us**[™]
System

Products

The BioProtectUs[™] System

PRODUCTS

- SmartTouch® Hospital Grade Disinfectant

- 82972-1-88566 (EPA Reg Number)

- BIOPROTECT™ Ready To Use (RTU)

- 87583-3 (EPA Reg Number)

- BIOPROTECT™ 500

- 87583-2 (EPA Reg Number)

- BIOPROTECT™ Hand Sanitizer

- Electrostatic Spray Applicators

The BIOPROTECTUs™ System

Setting New Standards for Clean



PRODUCTS - SmartTouch® Disinfectant

SmartTouch® Disinfectant

- E.P.A. Registered (82972-1-88566)
- Hospital Grade Disinfectant
- Highly Effective - 99.999% kill (5 Log Reduction)
- 30 second kill time on E.coli and S.aureus
- Effective a total of 38 GLP Tested Organisms
- NSF (D-2) Registered No Rinse Required for Food Contact Surfaces
- No VOC's
- Non-Corrosive
- Non-Flammable
- Neutral pH
- EPA Emerging Viral Pathogen Policy listed



PRODUCTS - SmartTouch® Disinfectant

SmartTouch™ Disinfectant vs. “Other” Disinfectant



	SmartTouch Disinfectant	Other Disinfectant
Efficacy	99.999% 5 Log Reduction	99.99% 4 Log Reduction
Effective on both porous & non-porous surfaces	✓	✓
Organism Kill List	38 GLP Tested Organisms	14 GLP Tested Organisms
Contains NO Phenols	✓	
Can be Diluted	✓	
NFS (D2) Registered	✓	
Hospital Grade	✓	
Toxicity	It took 5,000 mg/kg of ST to reach toxic levels, making ST 2.5 times less toxic than the leading disinfectant	This product reached toxic levels at 2,000mg/kg

PRODUCTS - BIOPROTECT™

BIOPROTECT™ RTU

- EPA Registered (87583-3)
- Water based, Patented, Bound Antimicrobial Technology
- Ready To Use (RTU) formulation
- Non-Leaching
- Persistent and Continuous protection of treated surfaces for up to 90 Days
- Mode of Action - Mechanical Kill
- Works while dry
- Both colorless and odorless
- Keeps surfaces protected between cleanings
- Neutral pH
- Non-Corrosive, Non-Flammable, No VOC's
- Food Contact Surface Preservative

BIOPROTECT™ 500 (Concentrate)

- EPA Registered (87583-2)
- Same benefits of RTU once diluted
- Dilution rate - 9:1 with water



The
BIOPROTECTUs™
System

PRODUCTS - BIOPROTECT™

BIOPROTECT™ approved as a **Food Contact Surface Preservative**



BIOPROTECT™ RTU can be used on food preparation surfaces including (but not limited to):

- Cookware made from any material
- Countertops and cutting boards
- Food wrap including aluminum foil, plastic wrap, coated deli paper and plastic trays
- Collection and storage equipment
- Storage containers of any material
- Industrial prep and processing equipment/machinery
- Paper products such as wipes, tissues, wall coverings, towels and more
- Sinks and other vessels used for cleaning and transporting food and beverage products
- Carbon water filters and other drinking water filter media



PRODUCTS - BIOPROTECT™

Bound Antimicrobial Technology vs. Other Antimicrobials

ANTIMICROBIAL TECHNOLOGIES	BIOPROTECT™ Bound antimicrobial technology	TRICLOSAN TECHNOLOGY	SILVER ION TECHNOLOGY
PASSED FDA CYTOTOXICITY	✓		
KILL METHOD	NON-LEACHING	LEACHING	LEACHING
SUPERBUG PREVENTATIVE	✓		
COST	\$	\$\$	\$\$\$\$
SAFETY	Safe for humans, pets, and the environment. NO poisons, toxic chemicals, or heavy metals used	IN 2016, FDA BANNED USE OF TRICLOSAN IN ANTIBACTERIAL PRODUCTS	Can cause permanent skin discoloration

PRODUCT - BIOPROTECT™

Example - Dry Wall Mold Test

7 Days



Untreated
Dry Wall



BIOPROTECT Treated
Dry Wall

PRODUCTS

Hydrating Hand Sanitizer Extended Protection



- Effective against 99.99% of Bacteria on hands & skin
- Up to 6 hours of protection
- Alcohol Free, Paraben and Sulfate Free
- Increased and extended efficacy with repeated use
- Aloe infused

BIOPROTECT™ Hand vs. Leading Hand Sanitizer		
	BIOPROTECT™ Hand Sanitizer	Leading Hand Sanitizer
Patented technology	✓	
Alcohol Free	✓	
Contains NO VOC's	✓	
Non-Flammable	✓	
Odorless	✓	
Does not cause discoloration of fabrics	✓	✓
Kills 99.99% of bacteria	✓	✓
pH balanced at 5-7	✓	



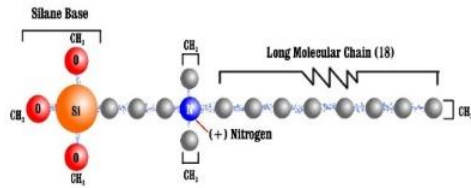
The **BIOPROTECTUs™** System

How it Works

The BIOPROTECTUs™ System

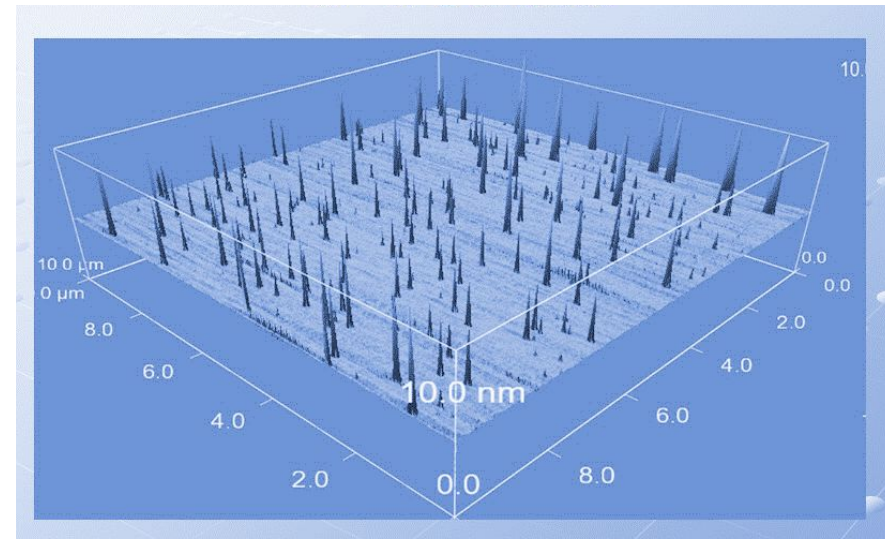
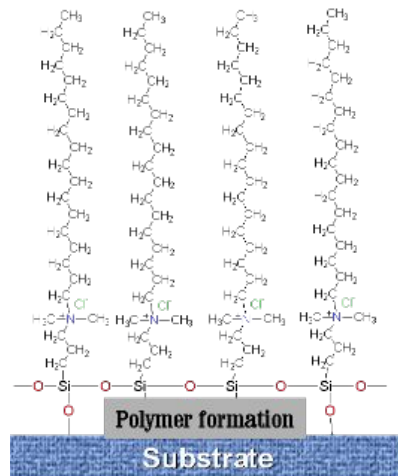
HOW IT WORKS –

When applied to a surface or incorporated into a material, BIOPROTECT forms a covalent bond with the substrate and creates a **microbiostatic antimicrobial coating**. The coating forms a nano-bed shield of **carbon nitrogen spikes** (self assembling monolayer), each of which are **cationic** (carry a positive charge), which attracts the negatively charged bacteria. Once attracted, the molecular spikes pierce the cell and rupture its cell membrane, causing that bacterial microorganism to die.



THE MOLECULE

THE POLYMER

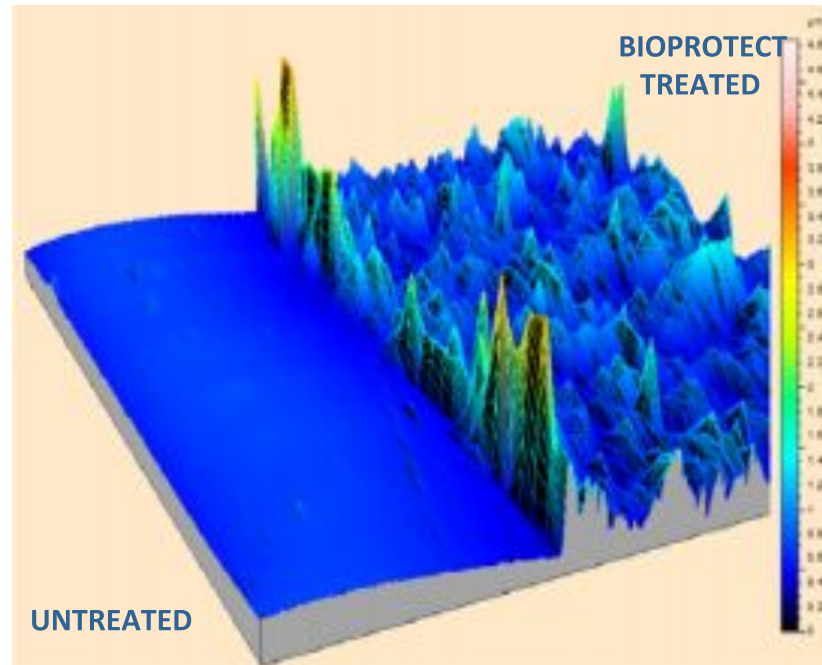


Self assembling monolayer

HOW IT WORKS - BIOPROTECT™

BIOPROTECT™ is a highly efficient and effective microbial control system to help reduce and control the population (dose) & spread (transfer) of microorganisms in your environment.

PATENTED TECHNOLOGY





The
BIOPROTECTUs™
System

The BIOPROTECTUs™ System

Information About

BIOPROTECTUs™ System

BIOPROTECT™ Key Aspects:



Multiple EPA registrations including approval by USDA for FCSS (Food Contact Surface Safe)



9 international patents including 2 for the attachment of the UV (Generation II) molecule during plastic and metal manufacturing process as a coating



May 2018 Plastics Industry Association stated BIOPROTECT™ is a “game changer in germ control”

BIOPROTECTUs™ System

SmartTouch® & BIOPROTECT™

Causative Agent Control:		
Bacteria	Mold/Fungi	Viruses
E. coli (feces)	Ringworm	Norovirus
Salmonella (food)	Athlete's foot	Influenza
Listeria (water)	Candida	HIV
MRSA	Asthma	Measles, Mumps
Staph aureus	Aspergillosis	Chicken Pox
Tuberculosis		Hepatitis A-B-C
C-diff (veg)		Rotavirus
Legionella		Corona Virus

BIOPROTECTUs™ System



IS

- ✓ Odorless
- ✓ Colorless
- ✓ Persistent – works in DRY STATE
- ✓ Water-based
- ✓ pH balanced
- ✓ Hydrophobic
- ✓ Environmentally Responsible
- ✓ No VOC's

IS NOT

- ✗ Leaching or migrating
- ✗ Flammable
- ✗ Corrosive
- ✗ Made of harmful poisons, phenols, or heavy metals

BIOPROTECT™ - Fast Facts

Key Highlights:



BIOPROTECT™ is a patented, revolutionary antimicrobial that creates a microscopic shield on porous and non-porous surfaces to destroy bacteria on contact for up to 90 days after cleaning, even for surfaces that post treatment are immersed in water.



BIOPROTECT™ is water-based and contains no heavy metals. BIOPROTECT is bound to the surface (substrate) meaning it cannot leach into the surrounding environment and is sprayed or fogged in interior environments.



BIOPROTECT™ carries an FDA master allowance file (MAF) through the Center for Devices & Radiological Health (CDRH) as well as 2 revolutionary patents for the attachment of the UV (Generation II) molecule during the manufacturing process, extremely beneficial in the medical device, plastics manufacturing industries.



The **BIO**PROTECT**Us**TM System

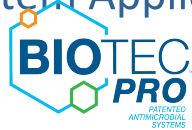
Closing

Recap

CLOSING

Recap of What Was Covered:

- ViaClean Technologies and the BIOPROTECTUs™ System
- Microbiology Basics
- The BIOPROTECTUs™ System Products
- SmartTouch® Disinfectant and Competitors
- BIOPROTECT™ Antimicrobial and Competitors
- BIOPROTECTUs System Application; Equipment, Assess & Test, Application



CLOSING - Recap

Efficient and Effective disinfection/protection program with:

- Optimized cleaning system of products
- Trained application technician partners
- Market leading application tools
- Application training options

Complimenting and Extending Your Hygiene Programs

