

Summary

BioShield® 75 is a patented organic antimicrobial technology which dries to form an invisible, durable layer of biostatic surface protection. BioShield® 75 does not contain heavy metals, is non-toxic, non-leaching and the most environmentally friendly antimicrobial available. In addition, the core BioShield® technology works to physically disrupt the microorganism's cellular membrane, eliminating any possibility of microbial resistance. BioShield® 75 is also the only product of its kind with approval for use on food contact surfaces.

What Does It Do?

The core BioShield® technology forms a colorless, odorless, positively charged polymer that molecularly bonds to a product's surface. The strong positive charge disrupts the cell membrane of micro-organisms that come into contact with the treated surface. BioShield®75 has a physical mode of action (the mechanism of inhibiting bacteria) and thus does not promote the development of resistant organisms.

Importantly, the product is highly durable and non-leaching unlike its competitors based on metallic platforms such as silver, zinc or tin. Furthermore, triclosan based antimicrobials have been banned from use in soaps, and further bans are likely.

How Does It Work?

BioShield®75 is applied to any clean surface by spray, wiping, fogging, or immersion. The product is allowed to dry at which moment it forms a covalent bond with the surface, forming a protective micro biostatic layer of spikes consisting of positively charged ions.

Pathogen cells are attracted to the spike by the positive charge and efficacy is achieved by piercing the cell wall and destroying the cell. The positively charged ion electrocutes the cell, adding to the efficacy. Since this is a physical mode of action, the destroyed cell cannot mutate or replicate, thus eliminating risk of antimicrobial resistance.

How Long Does It Work For?

Because the technology is bonded to the surface, the protective microbiostatic layer keeps on working for considerable lengths of time. It does not re-dissolve or leave the surface except by vigorous abrasion. Therefore, existing cleaning regimes can be maintained. Studies have shown effectiveness for up to 90 days from application. This is unlike traditional technologies which are no longer effective once they evaporate or are rinsed off.

What Tests Have Been Conducted? Does It Have Regulatory Approvals?

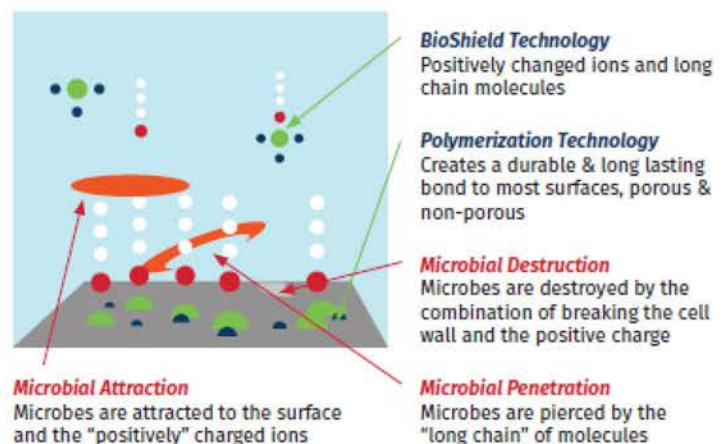
BioShield® 75 has been proven efficacious using widely recognized test methods such as JIS 2801 and ASTM 2149 testing. Furthermore, there have been numerous Independent studies, including one conducted by the University of Minnesota, that validate durability and effectiveness. BioShield® 75 is US EPA approved for use on food contact surfaces and has been granted numerous safety approvals including Assure Quality®, Ministry for Primary Industry, and Oeko-Tex®.

Detailed Notes

What are the specific bugs against which BioShield® 75 offers protection?

Laboratory tests have shown BioShield®75 to protect surfaces against a variety of bacteria, fungi, and yeasts including but not limited to: staphylococcus aureus, MRSA, klebsiella pneumoniae, listeria monocytogenes, E.coli, aspergillus niger, trichophyton, penicillium citrinum, aurreobasidium pullulans, postia placenta, Cladosporium sphaerospermum.

How does the product work?





BioShield® 75 is water based. Once applied to a surface (porous or non-porous) the BioShield® 75 molecule bonds strongly with the surface. The BioShield® 75 molecule sets up molecular spikes similar to a "bed of nails." Microbes that land on this bed of nails are impaled rupturing the cell wall and causing the demise of the microbe. These microbial swords are about one thousandth the width of a human hair. No poisons or toxic chemicals are used that can cause mutation or adaptive changes in the microbes. The end result is a reduced risk of cross contamination and microbial growth. The cleaning process is improved and enhanced over an extended period of time.



WHAT IS CREATING THE NEED?

According to the World Health Organization, infection is the #1 cause of death worldwide and the #3 cause of death in the United States. Twenty-five years ago antibiotics could control 90% of infections. Today that number is less than 50%. US News and World Report says \$50 billion or more is spent each year by US business due to absenteeism. Today's chemicals, disinfectants, and sterilants are causing microorganisms to mutate creating "superbugs." The CDC tells us that 80% of infection is passed by human hands. Mold is now considered a greater threat than asbestos and is far more prevalent.

Protectant nanotechnology represents a paradigm shift in chemical thinking. BioShield® 75 offers the first safe and effective long-term antimicrobial protection.

TOUCH-POINTS & MICROBIAL ATTACK

Touch-points are places touched by several persons multiple times per day. Control of contamination and surface damage caused by bacteria, mold, and mildew are a serious concern for industry. Touch-points (human contact), floors, ceilings, overhead pipes, passageways, process walls, and doors, are reservoirs for damaging bacteria. It is a known fact that these microbes can live on surfaces that appear to be clean. Microbial growth can be activated by high moisture or temperature elevations. Standard cleaning and sanitizing protocols are often ineffective in controlling the growth of these microorganisms. Common cleaning chemicals often cause two problems. First is the adaptive nature of microorganisms to chemical attack. These microbes are becoming increasingly more difficult to destroy. The surviving microbes begin reproducing rapidly. Secondly, chemical residues and dead microbes become a food source for new microbes to feed upon and grow exponentially.





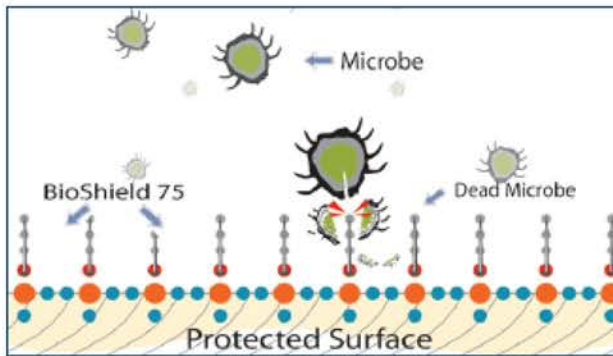
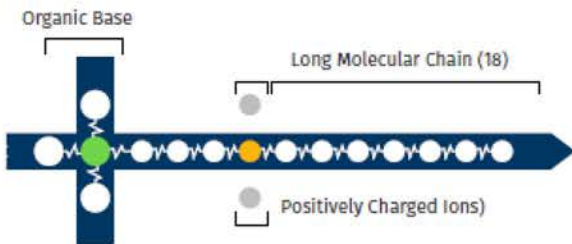
BioShield®75 provides 90 days of active protection between cleanings.

WHY BIOSHIELD?

BioShield®75 provides up to 90 days of active protection between cleanings. BioShield® inhibits a wide variety of mold, mildew, fungi, and bacteria. It is ready-to-use, does not require any special application methods or changes to current cleaning protocol. BioShield®75 is EPA registered and is the only product of its kind with food contact surfaces approval. BioShield is also approved for use in Australia and New Zealand by Assure Quality the Ministry for Primary Industry.

WHAT DOES BIOSHIELD DO?

- BioShield®75 Inhibits the growth of microorganisms
- BioShield®75 works physically vs. chemically.
- BioShield®75 protects surfaces for up to 90 days.
- BioShield®75 is easy and safe to apply.



BioShield(R) 75 protects surfaces against microorganisms using a unique mode of action. First, microorganisms are attracted to the positively charged ions which immobilize the cell. Next the long molecular chain physically penetrates the cell wall effectively destroying the cell.

Independent tests determined BioShield®75 to be 99.9% effective against mold, mildew, fungi, algae and bacteria.

BENEFITS

- Creates a durable, biostatic surface
- Safe, non-toxic, environmentally friendly.
- Enhances cleaning
- Prohibits the migration of pathogens on surfaces
- Exceptional value

Reduces total bacteria counts on surfaces, the risk of cross contamination and the potential for negative outcomes. Contamination from bacteria, mold and mildew can cost money and time and challenge the success of your business. To promote continuous, long-lasting protection against microbial contamination in your facilities use BioShield®75.

- Up to 90 Day Protection
- Alcohol Free
- Non-leaching
- Odorless and Colorless
- Long Shelf Life
- Highly Stable, No Special Storage Requirements