DeOdorPRO CoverShield Antimicrobial

Frequently Asked Questions

Is CoverShield registered with the EPA?
Yes, the EPA registration number is EPA Reg. No. 64881-7

How does the CoverShield technology work?
The active ingredients in CoverShield forms a colorless, odorless, positively charged polymer that molecularly bonds to the treated surface. You could think of it as a layer of electrically charged swords. When a microorganism comes in contact with the treated surface, the C-18 molecular sword punctures the cell membrane and the electrical charge shocks the cell. Since nothing is transferred to the now dead cell, the antimicrobial doesn't lose strength and the sword is ready for the next cell to contact it.

What is the purpose of the silane portion of the molecule?
Silanes are extremely efficient bonding agents that can be coupled to other molecules and then used to permanently bond those molecules to a target surface. Our antimicrobial silane modifies virtually any surface and transforms it into a material that will not support microbial growth.

Are CoverShield products quaternary compounds?
Yes and no. The active ingredient is an organofunctional silane, but part of the molecule is a quaternary compound. Unlike traditional quats, which have a limited kill spectrum, the technology provides long-term protection and controls a wide range of microorganisms including bacteria, fungus, algae, and mold.

What is the difference between CoverShield products and other antimicrobials on the market?
Conventional products penetrate living cells and kill by way of poisoning the organism or disrupting a vital life process. They are designed to act quickly and dissipate quickly. Most commercial antimicrobials used for treating surfaces do an adequate job of killing bacteria and fungi, although most have a limited range of effectiveness. The technology takes a totally unique approach. It provides an effective initial microbial kill when applied, but, unlike the conventional methods, it also provides long-term control of growth on treated surfaces, often for the life of that surface. The surface itself is modified to make it antimicrobially active.

Against what types of bacteria is the CoverShield technology effective?
The CoverShield technology has a mode of action that involves a positive charge and is effective against all bacteria, plus fungus, algae, and mold. A representative list of microbes against which the CoverShield technology has been tested may be obtained by contacting our corporate office.

Will this technology adversely affect the skin or environment?
No. Since the antimicrobial is permanently bound to the surfaces it protects, it does not leach from the fabric to the skin or into the environment. Extensive toxicological testing shows the antimicrobial does not cross the skin barrier. In fact, is so safe, that it is used on baby nappies to prevent nappy rash.

What biocide is used?
The active ingredient is 3-(trimethoxysilyl) propyl octadecyl dimethyl ammonium chloride.

Does the biocide use a heavy metal?
No, CoverShield products do NOT contain any heavy metals. Tin, arsenic, silver and copper are often used in other antimicrobials.

How is the treatment applied?

For Soft Furnishing: CoverShield products are applied in aqueous solution and can be inserted into almost any wet process during manufacturing at the mill. They can also be applied to finished goods. The antimicrobial is easily integrated into most jet, pad, and batch processes. The antimicrobial is cationic so it mixes well with other cationic and nonionic finishes (most softeners) and performs well in the same bath.
For Hard surfaces: can be treated on any hard surfaces by either fogging, wipe down, soaking or paint rolling or with the use of an airless paint sprayer on the target substrate.

How long does the treatment last?

Since the cured antimicrobial is nonvolatile, insoluble, and non-leaching, the treatment should last for the life of the treated surface. The life of a treated surface depends on a number of factors, not the least of which is surface preparation. If you treat a dirty or unstable surface, when the dirt comes off or the surface is disturbed, some of the antimicrobial will be removed with it. Abrasive or caustic (pH>10.5) cleaners will also shorten effective life.

Is there a test method to determine if the polymer is present?

Yes, CoverShield is based on an active ingredient that, in most cases, can be easily detected. A simple method of detection is available to demonstrate the presence or absence of the treatment. Bromophenol Blue (BPB) stain testing clearly shows the presence of the Microbe Shield in a matter of minutes.

What tests show that the growth of bacteria has been prevented?

Microbiological testing is what establishes the baseline standard that is used to give the BPB analytical procedure its validity for use as a QA and QC tool. Our team has over 50 years' experience in performing extensive microbiological tests such as bacterial retrievals, fungal growth tests (AATCC 30, ASTM G-21) and bacterial growth tests (AATCC 100, ASTM 2149-01). We have a long history of bacterial and fungal testing on many products including shoe linings, leather, socks, carpet and building products. Specific studies are available on our web site or you may contact a sales representative.

Why are the antimicrobial products so durable?

Because of their exceptional chemical bond (a covalent bond), the bonded polymer is neither soluble nor volatile. The unique bond results in the antimicrobial polymer becoming an integral part of the substrate.

Will its use result in 'super bacteria'?

No. Adaptation studies show that microbes do not adapt to CoverShield and no 'Zone of Inhibition' develops.

Does the Antimicrobial give off-gass during or after application?

No. The Antimicrobial does not volatilize, dissipate, or leach onto other surfaces. Its chemistry polymerizes where it is applied and forms a permanent bond that essentially lasts the life of the treated surface. Normal cleaning should not remove the treatment, although it can be abraded away.

Is the Antimicrobial permeable to moisture?

Yes, moisture that is in or on the treated material/surface passes through the treatment. After curing, the treatment is somewhat hydrophobic (water repellent), but it should not be considered to be a replacement for commercial water repellents.

Is there regrowth after treatment?

The Antimicrobial, because of its unique chemistry, provides long-term protection against regrowth and future contamination on treated surfaces. Porous surfaces which are contaminated below the surface will occasionally experience some growth which breaks through a treated surface.

What should the moisture content of walls be when preparing to apply treatment?
Semi wet or damp surfaces can be treated. As long as there is no running water on the surface to be treated, the Antimicrobial will bond to the surface and provide protection. Preferably, the dryer the surface the better. To complete chemical bonding of the Antimicrobial, it is important that the surfaces be dried after treatment.

Will the Antimicrobial affect the cooling capacity of AC coils?
Yes. The Antimicrobial should actually improve the overall cooling performance of AC coils by minimizing organic fouling of surfaces. The Antimicrobial helps minimize the microbial attack and attachment to fin and tube surfaces. An added benefit of the Antimicrobial is its ability to act as a permanently bonded soil release agent, making the coils much easier to clean. The Antimicrobial, at application strength, has surfactant properties which cause excess treatment to run off. This prevents excess polymer buildup and potential heat transfer efficiency losses.

What preparation is necessary for treating AHU's and coils?
The surface of the coils must be thoroughly cleaned and any residue from the cleaning agents must be rinsed off. The final rinse should come through the coil without any signs of dirt or foaming from the cleaners. Even new AHU's or coils should be carefully cleaned to remove any machining lubricants which remain from the fabrication process.

What is the difference between CoverShield and other antimicrobials (ex. Milgo, Microban, etc.)?
Most commercial antimicrobials used for treating building surfaces do a great job getting a quick kill on bacteria and fungi (although some have a limited spectrum of effectiveness). Conventional products kill by way of poisoning the organism. They are designed to act quickly but have harmful side effects. The use of Selectrocide, an EPA registered disinfectant (EPA Reg. No. 74986-5), eliminates all of these health and environmental concerns caused by traditional disinfectants (Contact *CLO2 Delivery System* for information about Selectrocide). Our Antimicrobial takes a totally different approach. Like conventional antimicrobials it provides an effective initial microbial kill when it is applied, BUT, unlike the others, this Antimicrobial also provides long-term control of growth on treated surfaces. The Antimicrobial permanently modifies a surface to make them antimicrobial.

How does the chemical work?
The active ingredient in CoverShield forms a colorless, odorless, positively charged monomer which molecularly bonds to the treated surface. You could think of it as a layer of electrically charged swords. When a microorganism comes in contact with the treated surface, the quaternary amine "sword" punctures the cell membrane and the electrical charge "shocks" the cell. Since nothing is transferred to the now dead cell, the antimicrobial doesn't lose strength and the "sword" is ready for the next cell to contact it. In order for the Antimicrobial to continue its effectiveness, normal cleaning of treated surfaces is necessary. Dirt and oil buildup from hands, paint, dead microbes, etc. will cover the treated surface prohibiting it from killing microorganisms.

Do the applicators receive any special kind of training?
Yes. *CLO2 Delivery Systems* prides itself on providing a superior product to all those in need of controlling and prohibiting microbial growth on interior surfaces. Therefore, to ensure proper use of the Antimicrobial, each applicator should receive four hours of classroom training and on-site training. In addition, they receive a training manual and ongoing access to our technical expertise.

What preparation is necessary prior to applying the treatment?
For best results, surfaces should be thoroughly cleaned and any residue from cleaning agents must be rinsed from the surfaces to be treated. The final rinse should come off without any signs of dirt or foaming from the cleaners. We recommend the use of our Selectrocide disinfectant (EPA Reg. No. 74986-5). Which is also on the federal government LIST N for killing Coronavirus. It Can be used with our cleaning agent. But when used without, it leaves no residue as chlorine dioxide is a soluble gas in water and leaves no residue once the surface dries. For cleaning purposes, we recommend using Selectrocide’s cleaning additive.

What does the application process entail?
In the simplest terms, one-part solution to three parts water is made and sprayed on the surface in an even and uniform pattern. How fast the solution is applied is based on the porosity of the surfaces or substrate. The more porous a surface, the slower application. Apply from the top down; starting with the ceiling, then walls. Hard floors and carpets are optional but can be sprayed. Furniture and other items should be moved to another room if possible. Anything which stays in the room and could be damaged by water should be covered. Use pads under any metal legs or slides to avoid rust stains. Opening of windows and the use fans will be used to speed drying.

Are there any safety concerns after application is complete?
This product will not give off any gases, leach onto other surfaces, or lose its strength over time. The unique properties of CoverShield allows permanent bonding of the product to any surface to which it is applied. As long as this the surface is kept clean with normal cleaning procedures, the surface will continue to fight any microbial growth.

How does the Antimicrobial react with Oriental Rugs?
True Oriental and Native American rugs frequently use water-based dyes and these dyes will bleed when exposed to the water-based application strength solution of the Antimicrobial. Companies specializing in cleaning these types of fabrics have special methods for applying water-based treatments.

How does the Antimicrobial react to carpet cleaning agents?
Cleaning agents that remain in the carpet will act as bonding sites for the Antimicrobial and the combined molecule will be removed at the next cleaning. A few residual cleaning agents can cause a gummy residue to form.

How does the antimicrobial react to commercial and residential carpets?
The newer solution dyed carpets are excellent with the Antimicrobial. There have been some instances of slight color fade with certain acid dyes. ALL carpets and upholstery should be tested for dye fastness prior to treating.

How should a contaminated surface be treated?
Microbes can be extremely hazardous and disinfection cleaning protocols should be used prior to the application of CoverShield. For normal contamination, solid surfaces should be thoroughly cleaned before treatment. Soft surfaces such as carpets and upholstery should be well vacuumed or professionally cleaned. Insulation can be cleaned and treated if only superficial growth on the surface is present. Insulation that has heavy growth or is damp should be removed and replaced.

Should heating coils be treated with CoverShield?
No. Although the Antimicrobial would not be harmful when exposed to the heat, treatment is unnecessary. The hot, dry surfaces of coils generally won't support microbial growth.

Is there a test method to determine if CoverShield is present?
Yes, CoverShield Treatment is based on an active ingredient that in most cases can be easily detected. Two methods of detection are available to check for or demonstrate the presence or absence of the treatment.

Are any special shipping requirements for CoverShield?
No, DeOdorPRO CoverShield is non-regulated and can be shipped anywhere by ground, sea or air.

What differentiates DeOdorPRO CoverShield from other long-chain antimicrobials?
Patent #US 2018/0134733 A1 DeOdorPRO CoverShield is blended with an exclusive patented adhesion technology that increases the durability and extends the life of the coating. It is this processing aide that differentiates DeOdorPRO CoverShield from other long-chain antimicrobials.

When should CoverShield be reapplied? High Contact Areas: When applied to high contact areas such as door handles, push plates, hand rails or bus seats, CoverShield will become abraded. Therefore, it should be reapplied at a minimum every 60-90 days. **Low Contact Areas**: CoverShield should be applied yearly or when regrowth of mold reappears.

PRODUCT USAGE & FEATURES

For use as a microbiostatic agent for material preservation, neither this product nor the articles treated with this product may state or imply any public health claims. Articles or substances treated with this product will be exempt from FIFRA regulation pursuant to 40CFR 152.25(a) if the intended use for incorporating this material into a treated article or substance is for the protection of the article or substance itself.

PRODUCT FEATURES AND BENEFITS

- DeOdorPRO CoverShield Antimicrobial imparts durable biostatic activity to the surface of a wide variety of substrates.
- DeOdorPRO CoverShield Antimicrobial is effective against mold, mildew and algae as a static agent.
- Increases efficiency-through proper application, durable bacteriostatic, fungistatic and algistatic surfaces can be attained with a minimum amount of DeOdorPRO CoverShield Antimicrobial.
- Provides freshness and combats deterioration and discoloration caused by
- bacteria, fungi and algae.

EPA Reg No. 64881-7 **EPA Est. 84917-MI-001**

DeOdorPRO CoverShield Antimicrobial also:

- Is safe for you & the environment
- Is classed as permanent
- Can be applied to most surface materials
- Does not kill by poisoning
- Physically kills
- Does not help create adaptive organism' "superbugs"
- Does not migrate from surface
- Does not off gas
- Does not leach
- Does not diffuse
- Does not volatize
- Does not transfer onto the skin
- Does not dissipate over time
- Does not bleed toxins into the environment

For uses and applications or to order contact your distributor.