



Microban Antimicrobial Protection Helps Prevent the Growth of Stain and Odor Causing Bacteria, Mold and Mildew



# Healthcare Products

with Microban<sup>®</sup> antimicrobial product protection.

## 24/7 Antimicrobial Product Protection

Microban technology inhibits the growth of microbes by disrupting multiple functions required for bacterial maintenance and reproduction. Our unique antimicrobial technology works 24/7 and does not require light activation. Proprietary formulation and application techniques ensure that Microban's antimicrobial technology is permanently locked into the surface of the product.

## Break-thru Technology

Microban zinc technology inhibits the growth of microbes by interfering with the ion gradient in their cell walls. This mode-of-action hampers the ability of the microbes to consume nutrients and by eliminating the gradient, the bacteria or fungi lack the necessary nutrients to grow.

## Proven History of Safe Use

Microban's portfolio of technologies have a long history of safe use in diverse applications and products. Microban zinc antimicrobial technology is not consumed during its action against microbes and is therefore not depleted or destroyed. This allows the technology to work effectively, keeping products cleaner for longer.

## Easy To Test

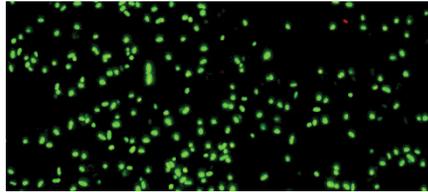
Microban zinc technology can be tested with a variety of recognized test methods. For bacterial efficacy, the Kirby-Bauer, AATCC TM90 and TM100, JIS Z 2801 and ISO 22196 are commonly used. For fungal efficacy, the AATCC TM30(iii) and ASTM G21 or D3273 can be used. Talk to your Microban sales representative about the appropriate method and protocol to demonstrate efficacy for your specific end use application.



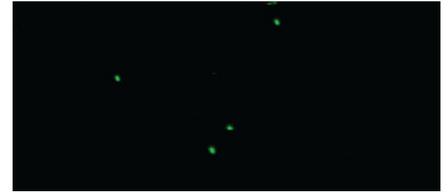


## Cleaner

In these images, taken using a confocal microscope, you can see how an unprotected surface supports the growth and proliferation of bacteria, while on the Microban protected surface the bacteria are unable to grow or reproduce over time.



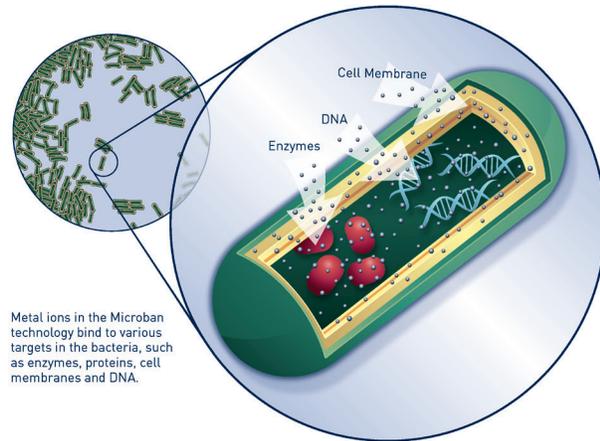
*Unprotected - 24 hrs.*



*Microban® Antimicrobial Protection - 24 hrs.*

## How It Works

Microban® antimicrobial technology is built-in to products during the manufacturing process and become an intrinsic part of the product inside and at the surface. When microbes such as bacteria, mold and mildew come in to contact with the product surface, our antimicrobial agents penetrate the cell wall of the microbe and disrupt key cell functions so the microbe growth is inhibited.



From: Hugo, WB 1992: Mode of Action of Non-Antibiotic Antimicrobial Agents, Pharmaceutical Microbiology W B Hugo and A D Russell eds pp 288-294

This information is based upon standard laboratory tests and is provided for comparative purposes to substantiate antimicrobial activity for non-public health applications. Microban technology is not designed to protect users from disease causing microorganisms. Microban protection inhibits the growth of microorganisms that cause stains, odors, and product degradation. Antimicrobial action limited to fabric surface.

## Technology at Work.

Microban® antimicrobial technologies keep healthcare product surfaces cleaner between cleanings by inhibiting the growth of stain and odor causing bacteria.

## Contact

Let's discuss how Metro products with Microban antimicrobial technologies are cleaner by design.

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[metro.com/healthcare](http://metro.com/healthcare)