MICROGUARD TECHNOLOGY

Who is Microban International?

Founded in 1984 by three biomedical engineers, Microban International, Ltd. is the global leader in built-in antimicrobial solutions.

CONSUMER TRUSTMARK

Utilized by **300+ companies** worldwide

Proudly displayed on more than **1000 products**

Globally acknowledged as a consumer Trustmark, the Microban® brand is utilized by 1,000+ companies worldwide and is proudly displayed on thousands of products in over 30 countries.

What is antimicrobial technology?

Antimicrobial technology is a solution that inhibits the growth of microorganisms such as bacteria, mold, and mildew on treated products.

Microban has a portfolio of over 25 approved organic and inorganic antimicrobial technologies that can be engineered into products and surfaces. These technologies work to deliver 24/7 product protection against microbial growth, without impacting product performance or aesthetics.

How can we help?

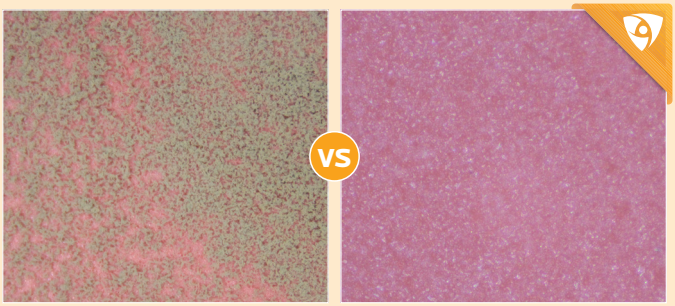
Once you've made the decision to implement antimicrobial protection into your product line, Microban's product development team will provide custom engineering services and work with you to formulate each aspect of the project. From initial concept and additive integration to official product launch, your dedicated account team will be by your side to deliver a suite of turnkey support services.

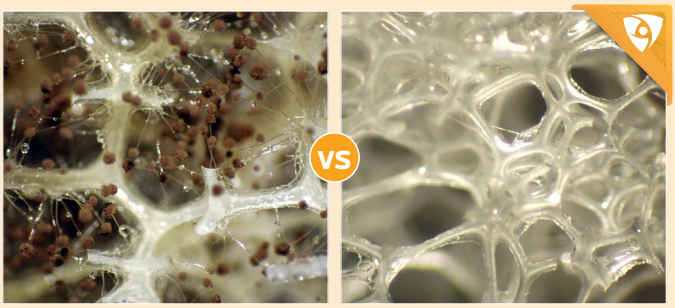
MicroGuard™: Antimicrobial Technology for Product Protection

MicroGuard™ is a new line of antimicrobial chemistries for PVC, PU and EVA foam applications. The technology utilizes highly effective non-metal active ingredients and can be provided in both masterbatch pellet and liquid formulations to satisfy different manufacturing requirements. It is recommended for applications that require broad-spectrum antimicrobial performance and will help prevent against staining and loss of mechanical strength or flexibility caused by fungal attack.

This product is an effective treatment for many end use applications including roofing membranes, decking, laminate vinyl flooring, wallcoverings, upholstery, awnings, mattress foam, footwear materials, etc. to help provide built-in protection from fungal damage.

UNTREATED PVC Vs. MICROGUARD™ TREATED PVC





UNTREATED FOAM Vs. MICROGUARD™ TREATED FOAM

PROTECTION THAT LIVES ON MICROBAN®

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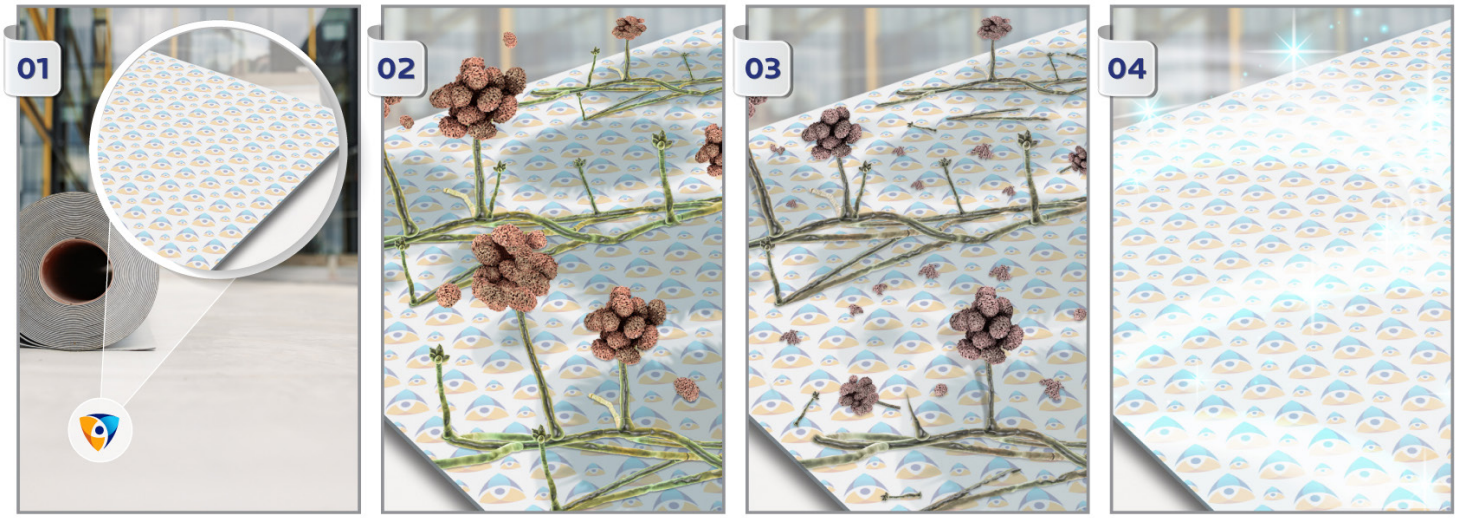
Technical Data – *At a Glance*				
Microban Product	LBF3-1515-100	IF1-1300-500	IF1-8100-250	LBF1-8106-200 *"Coming Soon"*
Antimicrobial Efficacy	Antifungal	Antifungal	Antifungal	Antifungal
Form	Pellet	Pellet	Liquid dispersion	Liquid dispersion
Applications	PVC	EVA Foam	PVC, PU, PU Foam	PVC, PU, PU Foam
Test Methods	AATCC TM30iii (AF) ASTM G21 (AF)	AATCC TM30iii (AF) ASTM G21 (AF)	AATCC TM30iii (AF) ASTM G21 (AF)	AATCC TM30iii (AF) ASTM G21 (AF)

How does MicroGuard™ work?

MicroGuard™ can be added into the product within the existing manufacturing process that ensures uniform distribution throughout the materials. It disrupts enzymes, blocking metabolic pathways and creating an environment in which fungi cannot grow. The addition of MicroGuard™ will help protect the treated products against the deleterious effects of fungi in-between regular cleanings.



MicroGuard is incorporated into the products

Fungi comes into contact with MicroGuard treated surface

MicroGuard disrupts cell membranes and enzymes, blocking energy production pathways

Unhealthy fungal cells die and treated product stays cleaner for longer

The Benefits

Superior Antimicrobial Performance – MicroGuard offers high performance antimicrobial additives that provide superior protection against fungi growth

Metal-Free Solution – The technology does not contain metal-based chemistries and is an effective alternative to metal-based antimicrobial additives

Enhanced UV Stability - Designed for use in select outdoor applications

Multiple Applications – Can be integrated into a wide range of PVC, PU, and EVA applications including foam

Manufacturer Friendly – Available in both pellet and liquid forms which can satisfy different manufacturing requirements

24/7 Protection – The technology remains active for product's expected lifetime - it will not wash off or leach out

Increased Product Durability – Products protected with MicroGuard are resistant to the degrading effects of fungi, ultimately increasing their expected lifetime

Global Registration - The actives are registered with U.S. Environmental Protection Agency (EPA) and EU Biocidal Products Regulation (BPR)

Get in touch - For more information on our turnkey solutions for polymers, contact a member of the Microban team today.

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