Microban Europe Ltd

Frequently Asked Questions

Technical Bulletin

What is Microban Antimicrobial Protection ?

Microban antimicrobial protection is built into products to inhibit the growth of bacteria, mould or mildew that can cause stains, odours and product deterioration. When used in conjunction with good hygiene practices, Microban technology works between cleanings to inhibit the growth of these broad spectrum bacteria and moulds, reducing the risk of cross-contamination.

Microban utilises over 20 different antimicrobial technologies that are selected and optimised for a broad range of product applications.

Antimicrobial is a general term that refers to additives or treatments which have either antibacterial or antifungal properties or both.

How Does Microban Work ?

Microban antimicrobial additives have more than one mode of action, which is technology dependant. Vital life processes are disrupted preventing the microorganisms from reproducing.

Microban Protection begins to work as soon as the microorganism comes into contact with the product surface, where it then works continuously to maintain a consistently lower bio-burden than can be expected on a product without Microban protection.

Is Microban a Surface Coating ?

Microban antimicrobial additives are used in a range of material types, such as :

polymer products, ceramics, textiles, and coatings.

When incorporated into paints, lacquers or powder coatings the Microban antimicrobial additives are designed to function in the coating only, however, when incorporated into solid materials such as polymers it is homogeneously distributed throughout the entire polymer matrix.

In What Way do Microban Antimicrobial Additives Differ from Disinfectants ?

Disinfectants are an instant but short term solution that provides only a limited residual activity once the treated surface dries. Bacteria can then very quickly start to grow and reproduce. As an alternative, Microban antimicrobial additives guarantee long lasting protection, continuously working to prevent the growth of bacteria throughout the entire lifecycle of the product.

How is Microban Incorporated into Products ?

Microban antimicrobial additives can be supplied in powder, polymer pellet or liquid forms, depending on the product to be treated and the manufacturing method employed.

For example, polymer masterbatches are supplied in a choice of carrier resins, closely matched to the virgin polymer to allow homogenous mixing and distribution.

How Durable is Microban ?

Microban antimicrobial additives are built in for the useful life of the product. It will not wash out, or wear away. Durability studies, specific to the environment in which the product will be used, have been successfully carried out to simulate a range of environmental effects that demonstrate the performance of the technology in question. If specific durability claims are required, testing can be arranged to substantiate these. For example, 5 and 10 year antibacterial and antifungal efficacy study simulations have been carried out on bathroom silicone sealants to determine the useful lifetime of the product.

How is Microban tested ?

Microban treated products are tested for their efficacy in accordance with Internationally recognised standards such as ISO 22196:2007, JIS Z 2801:2000, ISO 20743:2007, JIS L 1902:2002, AATCC TM100, AATCC TM30 Pt III. The test method will be selected depending on the product type and antimicrobial additive used.

How are Antimicrobial Additives Regulated in Europe ?

The biocidal active components of Microban antimicrobial additives are notified in accordance with the Biocidal Products Regulation (BPR) No 528/2012 for the relevant product types in accordance with their end use application. In addition to this, and where necessary, Microban antimicrobial additive masterbatches are registered in accordance with REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals).

How Do I Know if Microban is Safe ?

Microban antimicrobial additives have undergone extensive independent laboratory testing and have a long history of safe use, across a wide range of product types. The biocidal active components of Microban antimicrobial additives are notified with the Biocidal Products Regulation (BPR) No 528/2012 with full submission of the dossiers supporting safety aspects such as toxicological and eco-toxicological properties of the active.

Is Microban Approved for Use in Food Contact Applications ?

For use in direct food contact applications we have Microban antimicrobial additives regulated under the Food Contact Materials Framework Regulation (EC) No. 1935/2004. These products are listed by EFSA (European Food Safety Authority) as additives which may be used in the manufacture of plastic materials and articles intended to come into contact with foodstuffs under Directive 2002/72/EC and its amendments.

These food contact additives are also registered with the EPA (Environmental Protection Agency) and FDA (Food and Drug Administration) in the United States of America.

Is it Possible to Recycle Microban Treated Polymer Products ?

The environmental fate of antimicrobial additives used within a polymer product is dependent on the antimicrobial type and also on the disposal method used to deal with the waste in question. These disposal methods can include incineration or landfilling of waste which may contain antimicrobial products.

Microban treated polymer products will contain the antimicrobial treatment until the end of their useful life and until recycled. The active antimicrobial additive will be present at low concentrations in the polymer matrix at the point of recycling. If, for example, the polymer is re-melted and mixed with other post consumer polymer waste of a similar type, the active antimicrobial will be diluted but still remain in the resultant polymer blend. The antimicrobial efficacy will diminish as the additive is diluted during the recycling process.

Could Microban Technology Be Potentially Harmful for the Environment Via Waste Water ?

Microban is a safe and effective antimicrobial technology. It is unable to enter the waste water as it is bound into the solid treated product during manufacture. Therefore the potential to leach is negligible.

Can Antibacterial Products Create Resistant Strains of Bacteria ?

The danger of resistant strains of bacteria is primarily related to antibiotic resistance where bacteria no longer respond to antibiotics. Microban antimicrobials are not antibiotics. In addition Microban antimicrobial additives have multiple modes of action, unlike antibiotics which usually have one target site on the bacteria.

The potential for biocides in general to induce antimicrobial resistance is constantly under review. There is always an ongoing discussion concerning resistance with the question of relevance of transposing in-vitro findings carried out in the laboratory environment to in-situ real life situations.

Is Microban Nanotechnology ?

Nano Technology has become prominent in the scientific community and can cause confusion amongst consumers and the non-scientific community alike. Research has accelerated in the Nano Technology sector due to the unique properties of nano particles. Nano particles allow new products to be developed with novel characteristics, however, the safety and risk assessments of this technology has certainly lagged behind the scientific research.

Concerns exist, for example, that nano particles (due to their small size) can pass into the bloodstream and accumulate in various organs, or pass through cell membranes and reach the cell nucleus or indeed pass through the blood brain barrier. These concerns therefore stress the importance of sound toxicological data to support the safety of such technologies.

Due to the fact that silver antimicrobials also exist as nano technology additives (nano silver antimicrobials), Microban has decided to ensure that partners are aware that NONE of the various Microban silver antimicrobial technologies are nano technologies.

The Microban ‘Not Nano’ symbol can be used to ensure customers that they do not have to be concerned that Microban silver treated products contain nano silver particles. The antimicrobial products developed and used by Microban International are not nanotechnology based products. Therefore, our antimicrobial technologies do not have the concerns reported or associated with nanotechnology based antimicrobials.