

MICROBAN PROTECTION FOR WORKSURFACES - Questions and Answers

Omega - the only worktop to have Microban antibacterial protection.

1 What is Microban?

Microban® protection is an antibacterial technology that can be safely built into most plastics and textiles to continuously protect them against the growth of bacteria which can cause contamination, odour or staining. When used in conjunction with good hygiene practices, Microban technology works in-between cleanings, to inhibit the growth of a broad spectrum of bacteria, mould, mildew and fungi for the life of the product. Microban® antibacterial protection has been proven safe, effective and durable through extensive testing by independent laboratories and via real-life use of Microban protected consumer and industrial products.

2 What is the history of Microban?

Microban technology was originally developed to provide antibacterial protection for medical devices, and surgical and hospital equipment. With the success of these applications over the last decade, broader commercial applications became possible. Consumer and industrial products are a natural outgrowth of the company's commercial success. Microban antibacterial protection was developed by US scientists in 1980. The Microban Products Company was then founded in order to develop commercial applications of the proprietary technology based on the active ingredients to allow incorporation into solid plastics, fibres and textiles. The number of additives now available under the Microban® brand is over 100.

Microban® antibacterial protection is rapidly being introduced into consumer products to address the growing public concern over the prevalence of harmful bacteria, such as E. Coli, Salmonella, Listeria, Staphylococcus and Streptococcus, as well as odour and stain-causing bacteria found in textiles such as dishcloths, tea towels and even socks and sports footwear.

3 Does Microban technology kill bacteria?

Microban antibacterial technology is effective in inhibiting the growth of and in killing common foodborne and odour-causing bacteria. Microban additives have been demonstrated to be effective in reducing levels of bacteria such as Salmonella spp., E. Coli O157 and Listeria Monocytogenes over time, by over 99.9%, even at low concentrations within the product surface being tested. Microban technology is highly effective against a wide range of bacteria.

4 How is Microban incorporated into products?

Microban® technology is built into the product at the manufacturing stage. It will not wash out or wear out, and enough Microban additive is incorporated to ensure continuous protection throughout the lifetime of the product. Because it is uniformly dispersed, it is present and effective throughout the product, even in hard to clean areas. Even when Microban® additive is removed from a solid surface during

abrasion, new molecules of additive quickly migrate from the body of the material to the surface to ensure constant antibacterial effectiveness.

5 How does Microban protection work?

The active ingredients in Microban protection work in a variety of different ways on bacteria. These include physical penetration of the cell wall of the bacterium, electrostatic interruption of the cell's operation, and total breakdown of the metabolic processes in the cell. These modes of action occur at the same time, and neutralise the ability of bacteria to function, grow and reproduce.

The fact that there are many modes of action, including physical, means that these actives are highly preferable when compared to the chemical poisoning mechanism of many antibiotics and antiseptics. Over time, for example, antibiotics have encouraged resistant strains of bacteria to develop.

6 Will scratches on a product diminish the antibacterial effectiveness of Microban?

Microban® antibacterial protection is not a coating on the surface of materials - it is literally part of the product in which it is incorporated. Scratches or chips, therefore, will not affect the ability of Microban technology to combat bacteria and other organisms. Other types of abrasion, including cleaning, will not impede the protection. Microban® protection keeps working to protect long after surface coatings have been removed. Even abrasive cleaning does not lessen its protection; abrasion triggers the migration of Microban molecules from within a product to its surface. Microban technology therefore provides continuous protection even in areas that are difficult or inaccessible to clean – for example the cuts and scratches in a chopping board or on a kitchen work surface.

7 Is Microban technology safe?

Yes. For example, one of the key Microban additives is a common ingredient of cosmetic products such as shampoos, soaps, and deodorants. It is also contained in many brands of toothpaste (where we routinely swallow 10-15% of the product on a daily basis) and mouthwashes. Other Microban actives are commonly used in skin and beauty products, and as an additive in food. Presence in these everyday formulations is substantial proof of the safety of Microban products. In addition, Microban protection is an approved preservative in EC Directives related to the safety of hospital products. All additives are developed for the specific intended use of the final product, and the ingredients are thus tailored to deal with the type and volume of bacteria or other organisms found in their typical intended environment e.g. food preparation areas, or wet areas such as bathrooms. In Microban protected products, the level used is typically below those used even in cosmetic products. Only a small fraction is on the surface at any time and it is also bound onto the surface. It only attacks thin cell walls (such as those of bacteria) and is harmless to human, animal and vegetable cells. Disposal of Microban protected products as normal household waste constitutes no risk to health or the environment. Many Microban formulations have Food Contact approval.

Microban technology is registered with the US EPA and is incorporated into several medical devices that have FDA 510K body contact use registration and approval.

8 In what way is Microban technology different from disinfectant?

Disinfectants provide an instant but short term solution. Once an area has been sanitised with a disinfectant, bacteria can start to grow again when the surface dries and the disinfectant evaporates. Microban protection, on the other hand, gives long lasting protection, working continuously to prevent the growth of bacteria throughout the life of the product. Microban technology will not eliminate the need for disinfectants or replace conventional hygiene practices, but it does provide an additional and convenient layer of defence against harmful bacteria in between regular cleanings.

9 How do I know that Microban protection is durable?

Microban® protected products are usually subjected to extensive durability trials at independent testing laboratories prior to any product launch. For example - Cutting Surfaces (boards) have been subjected to 250 dishwasher cycles and after each 50 cycles, mechanical abrasion of the surface was performed to mimic general use of the surface. As part of the due diligence monitoring program, selected products have been recovered from use at the projected end of life, for efficacy testing. These Microban protected products have still demonstrated efficient and acceptable antibacterial activity at and beyond the projected end of life.

10 How can we be sure Microban protection is working effectively?

The Microban brand name is your assurance of antibacterial effectiveness. All Microban® protected products are rigorously tested by a global network of independent laboratories and are required to meet exacting efficacy requirements before they can carry the Microban brand logo. Microban Certification and Registration Programmes ensure that all products carrying the Microban name are tested on a regular basis to ensure they conform to the necessary standards. This includes the testing of sites or facilities where Microban technology is used in the processing and manufacturing of food.

11 Do we still have to clean products with Microban“ antibacterial protection?

Absolutely. Good hygiene practices should always be observed, including the washing of hands and cleaning of products. Microban technology provides added protection in-between cleanings. Whereas bacteria may still exist on a non-Microban® protected product after cleaning, the likelihood of this being the case on a Microban protected product is significantly reduced. Microban technology offers continuous protection, even in the areas that are difficult or inaccessible to clean – e.g. cuts and scratches on chopping boards and kitchen work surfaces.

12 Is Microban technology approved for use in food contact applications?

The active ingredient used in many Microban applications has gained approval by the European Scientific Committee for Food as a food contact additive in plastics in accordance with EU Directive 90/128/EEC and 2002/72/EC.

Microban additives do not taint food. To prove this, samples of Microban protected consumer products have been subjected to laboratory taint tests. These tests demonstrated that there was no significant difference perceptible between the control foods and the foods exposed to the surfaces containing Microban technology.

13 How does Microban protection remain on textile products that are washed repeatedly?

All Microban additives intended for use on textiles are uniquely formulated to give long lasting benefit and protection. This is achieved in a variety of ways that include bonding the active ingredient onto the fibres of the fabric using electrostatic effects and using curing technologies that lock the additive in place. These, and other technologies, hold the Microban protection in place on the fabric during wearing or use, washing and drying. Microban protection can be incorporated directly into the fibre of artificial yarns during extrusion, and in these cases the protection lasts for the lifetime of the product.

14 Does Microban technology affect the biodegradable character of the product?

All Microban® active ingredients are subjected to a thorough assessment of their potential impact on the environment. This includes their ability to degrade into completely harmless products in the natural environment. Microban additives will not affect the biodegradability of the product into which it has been incorporated, leaving their biodegradability the same as if the Microban had not been introduced.

For further information on Microban please visit www.microban.com