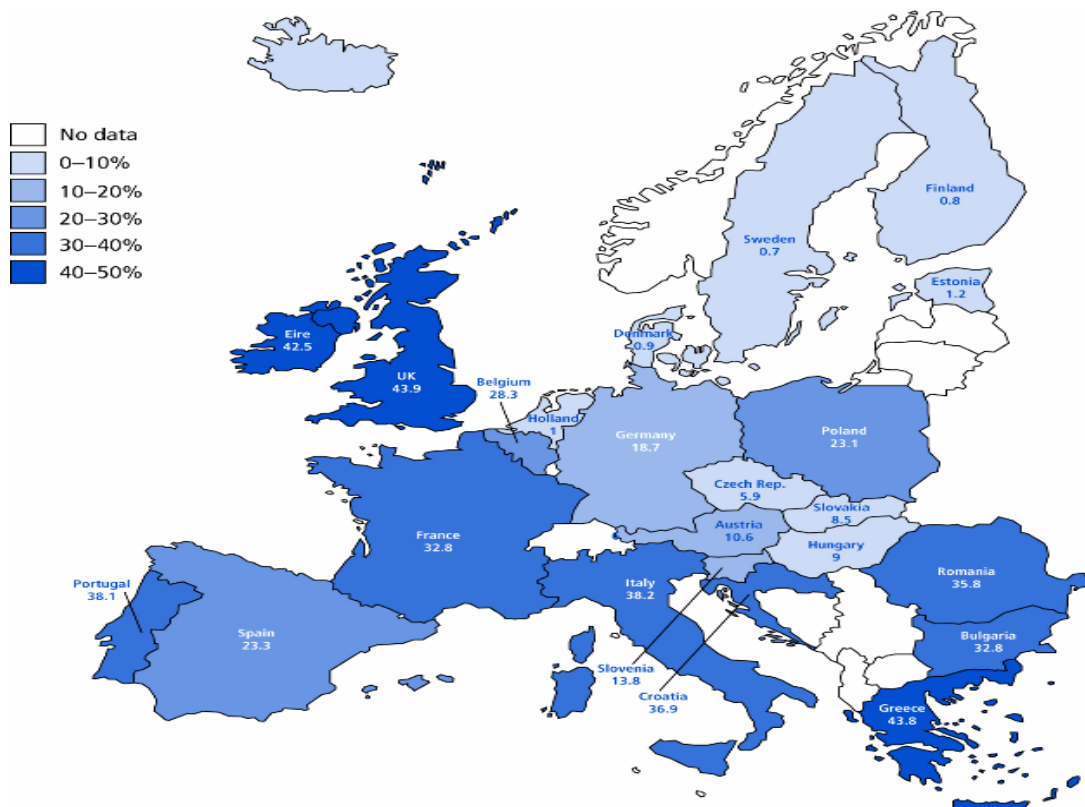




Manufacturers can partner with the market leaders in anti-microbial technology, BioCote. BioCote provide unique anti-microbial solutions for a wide range of products and applications. Manufacturers' products can be available with added BioCote anti-microbial protection unique in the marketplace.

Infection control is becoming increasingly important within healthcare environments with the target being the prevention of healthcare associated infections (HAI). The level of awareness in the general public has increased mainly due to the media and government highlighting the issues and statistics of HAI's.



Map shows Levels of MRSA bloodstream infections across Europe

A lot of work has been carried out to highlight the issues related to healthcare infections and in particular MRSA. Solving the problem is now a key issue, particularly for infection control teams. Education on standard infection control procedures such as hand washing and proper cleaning is a major area for concentration. In addition to hygiene we should also look at all available technology to assist reducing potential cross-contamination.

BioCote® is an exciting development in providing continuous antimicrobial properties to products and equipment used in the healthcare environment. These products inhibit the growth of a **wide range** of micro-organisms such as Staphylococcus aureus, Pseudomonas aeruginosa and E-coli.

A major benefit of using BioCote is its ability to inhibit the growth of bacteria between cleans. When a surface is cleaned the number of bacteria on the surface is reduced. However before the surface is next cleaned it can be recontaminated resulting in bacteria levels increasing. A BioCote treated surface will keep the number of bacteria to a minimal between cleans. BioCote offers the healthcare industry a second line of defence against healthcare acquired infections.

BioCote Limited provides total hygienic solutions based around its silver technology providing antimicrobial powder coating, plastics and fabrics. BioCote partners with companies providing products into the Healthcare sector. Products are targeted in areas where hygiene is important or desirable and antimicrobial products can be used effectively in addition to the current infection control procedures.

BioCote develops key partnerships with leading healthcare companies providing products where microbial cross-contamination can be of issue in hospitals and which can be the source of cross-infection. BioCote microbiologists work in conjunction with infection control teams to identify the highest risk areas within the hospital environment and looks to find solutions to those key products. Products protected with BioCote include nurse call systems, doors and door handles, cubicle curtains, bath lifts and waste bins to name a few.





Examples of some BioCote protected products



It is important, of course, that the BioCote[®] products are utilised as an addition to the current cleaning and infection control procedures such as:

- Regular hand washing, especially when in contact with patients
- Regular cleaning of equipment and environments
- Use of protecting equipment such as gloves/masks etc.

BioCote[®] products still require cleaning and should not be considered either as a replacement or alternative to good hygiene practices. However, they do provide the optimum level of due diligence currently available against the proliferation of disease-causing bacteria in a wide range of areas where there is potential for growth.

How BioCote works

The active ingredient utilised in BioCote is the element silver in the form of silver ions. It is well known that silver is an excellent natural antimicrobial with a high efficacy against microbes, but low toxicity against non target organisms. Silver is a natural antimicrobial, which has been used for many centuries for its abilities to aid in preservation. Silver is also used within healthcare in silver coated catheters and impregnated wound dressings.

The silver ions are incorporated during the material manufacturing process and are therefore present and active for the whole life of the finished product. The addition of the active ingredient does not affect the performance of product in any other way than imparting anti-bacterial qualities.

Silver ions are slowly released from an inorganic matrix via an ion exchange mechanism. The release of silver ions is slow but fast enough to maintain an effective concentration on or near the surface of the material.

When the silver ions reach the surface of the micro organism its mechanism of antimicrobial action begins. Silver ions bind within the cell. Once inside the cell silver ions can bind readily with critical proteins (enzymes).

Enzymes become denatured resulting from conformational changes caused by the binding of silver ions. Many of the enzymes denatured by silver ions are needed in the production of cellular energy. Once the energy source is removed the cell cannot maintain its osmotic pressure and necessary substrates will leak out of the cell and the microbe will quickly die.

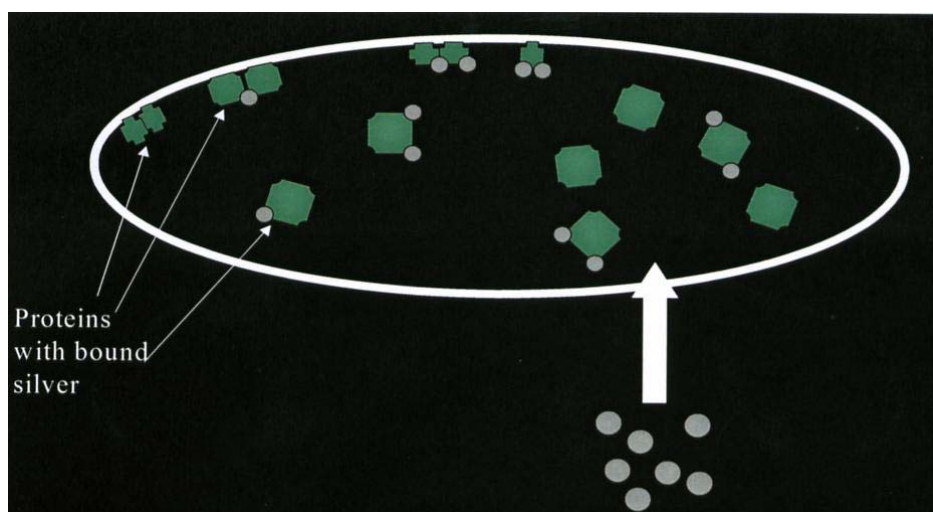
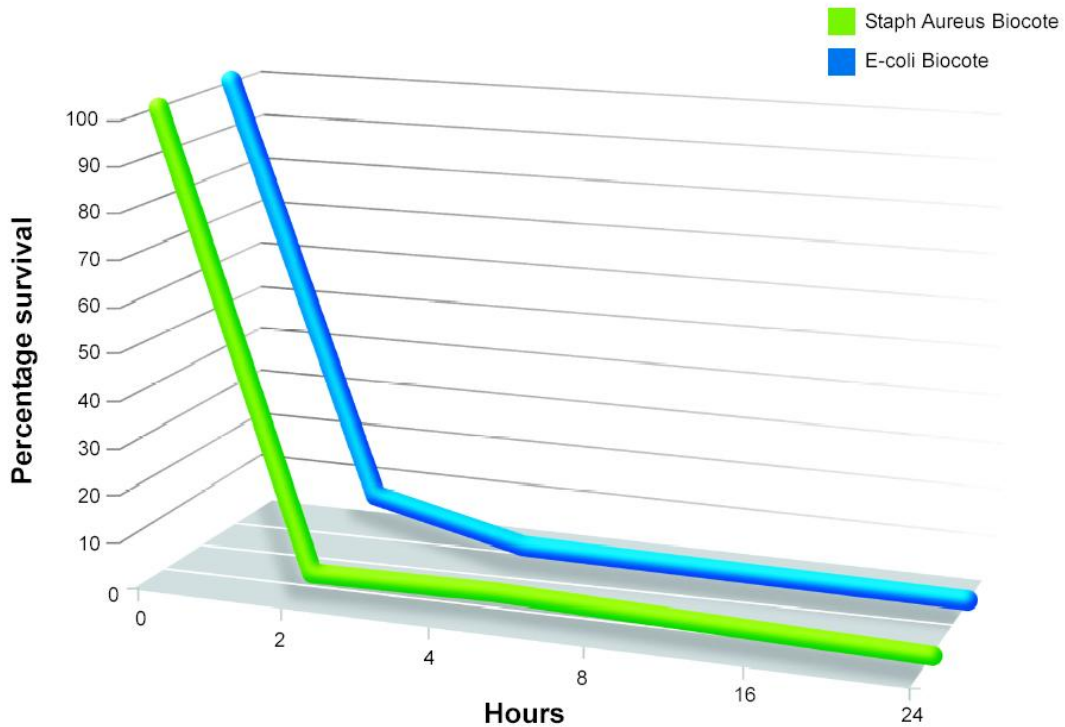


Diagram: Representation of silver ions binding with critical proteins within a bacterial cell

Extensive independent testing has been carried out on a wide range of bacteria including MRSA and E.coli. Products have been tested for the simulated life of the product /material with no significant reduction in the antimicrobial performance noted, therefore demonstrating the antimicrobial efficacy for the life of the product/material.



As silver ions do not operate in the same way as antibiotics, the potential for generating resistant strains is highly unlikely, if not eliminated. To date there is no evidence of resistant strains resulting from use of silver.

BioCote forms part of a second line of defence, with the potential for spreading contamination through manual contact being minimised. Working with Manufacturers, BioCote can offer a complete anti microbial solution incorporating BioCote technology into a variety of product surfaces which are effective against a wide range of micro organisms.

