

Breakthrough in microbial control

by the technical team, Byotrol plc, Riverside Works, Manchester M40 7RU, UK.

A revolutionary technology solution from leading antimicrobial technology company, Byotrol plc, is now available for all Independent Meat Suppliers Association (AIMS) members to provide total hygiene control right across the supply chain – literally from farm to fork.

This solution is proven to not only deliver significant cost savings in the area of hygiene, but also eliminates the need to change cleaning products every few months to combat resistance. The technology delivers a combination of low environmental toxicity and minimal taint and it has residual efficacy across a broad range of organisms. It has been described as a real breakthrough for the members of AIMS and the food processing industry as a whole.

At present the cost of using water in a cleaning process is considered to be around £4 per tonne by the time it has been made suitable for return to the environment. With an environmental toxicity which is several orders of magnitude lower than most other disinfectants the new system potentially offers an immediate saving because its components are naturally biodegradable.

How does it work?

Byotrol products use the changes in surface tension as the basis of their attack on micro-organisms. As soon as the product is applied on a surface it creates a condition on the surface making it more difficult for the micro-organisms to settle, attach and reproduce before additional micro-organisms land.

Micro-organisms exude materials on a surface in an attempt to form attachment properties (a biofilm). These compounds consist of proteins, polysaccharides or oily type materials and they are all disrupted by the pervading surface tension regime created by the Byotrol system. This makes it much more difficult or impossible for the organisms to form a firm attachment.

Finally, the micro-organisms, in their weakened state, succumb to the residual, long lasting biocidal

action provided by component biocides in the chemical system. These are not aggressive chemical compounds, but when acting on a micro-organism, they cause the organism's membrane to burst before it has a chance to reproduce.

The effectiveness of any biocide is a combination of its toxicity with the time it is in contact with the surface/micro-organisms it is targeting.

Most developments in disinfectant in recent years have focused on making the biocide increasingly potent, with little or no development in contact time. If you can significantly increase the contact time from seconds (most current technologies) to hours, days, weeks and even months, the effectiveness of your biocide increases exponentially and importantly you can achieve successful disinfection with much milder biocides which are significantly less harmful to humans and animals. It is this use of increased contact time coupled with relatively mild biocides that makes the new technology so effective.

It is based upon a nano-polymer combined with a number of biocides. The polymer is inert and highly stable and when applied to a surface it forms a microscopically thin and invisible layer which makes the surface conditions difficult, if not impossible, for organisms to settle on. The inertia and stability keeps the chemicals in place for days, weeks and even months at a time depending on the formulation being used. It is this polymer which provides the residual benefit of a technology which works long after application. The associated biocides kill the organisms.

The Byotrol technology has been tested and

certified against protocol EN1276 (clean and dirty conditions) by Campden and Chorleywood Food Research Association.

In addition to eradicating E. coli, it has been proven to successfully eradicate difficult pathogens such as listeria and clostridium, and in fact all food spoilage or pathogenic bacteria of concern to the meat processing industry. Having passed CCFRA taint tests, Byotrol is ideal for use in the meat and poultry industry and the food industry as a whole right across the supply chain for general cleaning, through to production line sanitisation and personal hygiene.

At the other end of the chain, fogging products are suitable for not only cleaning meat manufacturing plants but even transport and containers. Byotrol plc has split its offering into three defined areas namely, Agrisphere, Intersphere, and Nanosphere to demonstrate the single consistent approach to microbial control.

At the start of the food chain is the Agrisphere product range which provides a comprehensive range of cleaning and sanitising products for the farmers who supply the abattoirs of the dairy industry. The product range includes DEFRA approved Micro-cleanse concentrate liquid for dilution for use on buildings, equipment and animals' hooves. Dairysan teat dip and spray as well as teat wipes for teats and milk clusters are

also available, along with wipes for hard contact surfaces. A Dairycleanse concentrate liquid for dilution in open plant and cubicles and the Agricare hand sanitising mousse complete a product range designed to help meat and food off to a good start when it leaves for the abattoir or food factory.

At the start of the food processing cycle Byotrol's

Intersphere range is the first product to effectively and permanently control micro-organisms which develop on the interior and exterior walls of buildings such as abattoirs. The Intersphere range is available in a number of formats. The 750ml ready to use trigger sprays are ideal for local application. The five and 20 litre ready mixed containers are for general application in volume and the five and 20 litre containers of concentrated mix are for dilution and general use.

Byotrol technology has also been incorporated into an antimicrobial paint which offers long lasting microbial control and is much more cost effective than white tiling your entire premises.

Long lasting control

The Nanosphere range of products are designed for the food processing industries and are designed to tackle all the hygiene issues involved in a broad spectrum of complex commercial food environments. They prevent and combat organisms such as Pseudomonas and E. coli especially prevalent in meat/poultry processing.

The company recommends a cleaning regime consisting of a thorough deep clean of all equipment including conveyor belts and production lines using Byotrol's fogging machinery. The misting unit applies the chemical in a fine aerosol and ensures all surfaces, including hard to reach areas, are cleaned. In addition, a hand held trigger spray and disposable wipes impregnated with Byotrol are used for treatment of all hard surfaces.

"At AIMS we are always on the look out to identify products that can provide measurable benefits," Janet Frank, operations manager at AIMS, told International Food Hygiene. "I am confident that Byotrol's extensive product range will provide the peace of mind that our members' premises are consistently and effectively protected from the spread of bacteria."

FaxNOW +44 161 205 8146
sales@byotrol.com

