



# Antimicrobial Solutions for Plastics

Driving a More Sustainable Future

To ensure better products and longer usability, manufacturers in a whole host of industries are integrating antimicrobial additives into plastic products to provide intrinsic, lifelong protection against microbial damage.



Plastic is a versatile, affordable and long-lasting material that pervades almost every aspect of modern society.<sup>1</sup> The introduction of plastic to the world of manufacturing single-handedly changed the face of consumption, driving mass production and making previously unattainable products, from everyday necessities to luxury goods, available to all.<sup>2</sup>

Unfortunately, the widespread use of plastic has had severe environmental repercussions. The call for greater environmental responsibility is, therefore, shaping the future of the plastics industry. Even governments are now formulating stricter laws aimed at preventing plastic pollution and encouraging manufacturers to improve the sustainability, longevity and durability of their plastic products.<sup>3</sup>

## Adopting an Environment-Friendly Approach

Most plastic items are regarded as low-cost, short-lived consumables in today's throw-away culture. Any imperfections that develop over time can result in products being discarded and replaced. Stains, odours and degradation are often caused by a build-up of microbes on product surfaces.<sup>4</sup> So, consumers tend to favour plastic products that are easy to keep clean.

However, certain plastic goods, especially those used frequently by multiple users or those kept in warm and moist conditions, are more prone to microbial growth. Although routine cleaning can temporarily reduce the surface bioburden of harmful microbes, common disinfectants only offer limited residual activity, meaning that surfaces are quickly re-contaminated.

To ensure better products and longer usability, manufacturers in a whole host of industries are now integrating antimicrobial additives into plastic products to provide intrinsic, lifelong protection against microbial damage.

### Delivering Better, More Sustainable Products

Antimicrobial additives such as Ascera™ and MicroGuard™ by Microban International are based on more sustainable active ingredients than traditional antimicrobials. They can be seamlessly incorporated into a wide range of polymers at the point of manufacturing to provide long-lasting product protection.

These built-in solutions work in conjunction with regular surface cleaning regimes to extend the durability of plastic items, minimise microbial damage that can lead to premature and unnecessary disposal and consequently reduce the volume of plastic waste.

Manufacturers that incorporate antimicrobials into polymer-based materials can now offer products that are more attractive to their environmentally-conscious customers and that help satisfy new rules and regulations.

These innovative chemistries for plastics are emerging as an important tool to promote sustainability and could ultimately go a long way towards shaping a cleaner, greener planet.

### References

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