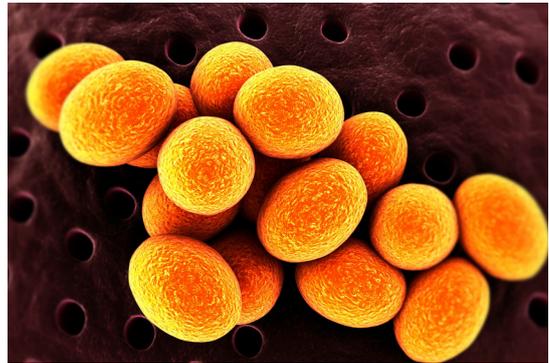


Micro-organisms in bedding: 10 facts

When you settle in for the night, the last thing you probably think about is what could be lurking in your bedding. We have all sorts of bacteria and fungi on our bodies and most are perfectly safe, but beds provide an excellent base for micro-organisms to grow. They thrive on sweat, saliva and all the other things that get into our beds, from faecal matter to food.

- 1 One such bacteria that can spread in bedding is *Staphylococcus aureus*, commonly found on human skin or in the nose of a healthy person and on cuts and lesions. If these bacteria enter the body they may result in illnesses such as skin and wound infections, urinary tract infections, pneumonia and bacteraemia (blood stream infection).
- 2 Harmful bacteria such as *Salmonella* and *MRSA* will not be removed just by washing your bedding.¹
- 3 Norovirus (the 'winter vomiting bug') can survive in duvets, pillowcases and sheets for several days. Only washing at 60°C or higher will kill the virus. Detergent and disinfectant alone will not necessarily do the job.²
- 4 Transfer of pathogens can occur between contaminated and clean laundry during the washing cycle. Fungal infections can be highly contagious and thrive in bed linen. Washing articles at a high temperature will kill fungi, but using low temperatures will spread it around onto other items.³
- 5 Yeast infections on the skin can cause problems in folds of skin where there may be moisture. Bedding is a perfect breeding ground for such yeasts if not washed regularly and at a hot temperature.
- 6 Failure to wash bedding regularly or at a high enough temperature increases the risk of spreading bacteria. Only one third of us claim to wash our bedding on a weekly basis.⁴



Staphylococcus aureus

- 7 Human sweat is often found to contain trace amounts of excrement and even *E. coli*. The accumulated dirt and grime is also likely to attract any number of bugs, which in turn deposit their own dirt and excrement into your bed, increasing the risk of allergic reactions.
- 8 The number of bacteria in a bed multiplies over time. A study revealed that 70% of duvet owners admit to not washing their duvet for 10 years.⁵
- 9 In a 2015 study that assessed the level of fungal contamination in bedding, researchers found that feather and synthetic pillows 1.5 to 20 years old can contain between 4 and 17 different species of fungus.⁶
- 10 When tested over a four week period, unwashed pillowcases were found to contain 39 times more bacteria than pet food bowls. Pillowcases that went unwashed for only one week accumulated 17,442 times more bacteria than a toilet seat.⁷

¹ www.nhs.uk

² www.nhs.uk

³ International Scientific Forum on Home Hygiene

⁴ Professor Sally Bloomfield, London School of Hygiene & Tropical Medicine

⁵ University of Worcester

National Pollen & Aerobiology Research Unit

⁶ www.researchgate.net/publication/7406800

⁷ Philip Tierno, New York University School of Medicine

⁸ yougov.co.uk/news/2014/08/27

Micro-organisms in bedding: the solution

Permanent antibacterial protection for textiles

Biomaster antibacterial technology provides durable and effective protection against harmful and odour-causing micro-organisms. It is effective in all applications for the lifetime of the treated article without affecting the characteristics of the material.

How does Biomaster protection work?

Biomaster is based on silver ion technology and has three modes of action. When micro-organisms come into contact with a Biomaster protected fabric, the silver ions prevent them from growing, producing energy or replicating, therefore they die.

Biomaster is incredibly durable, long lasting and highly active. When added, it becomes an integral part of the textile. The controlled release of the active ingredient provides maximum antibacterial protection for the lifetime of the product.

1 Biomaster binds to the cell wall disrupting growth



2 The Biomaster ions interfere with enzyme production stopping the cell producing energy



3 Biomaster interrupts the cell's DNA preventing replication



How effective is Biomaster?

Biomaster additives have been proven to reduce the microbial load in fabrics, both bacterial and viral (i.e. Norovirus) by up to 99.9%.

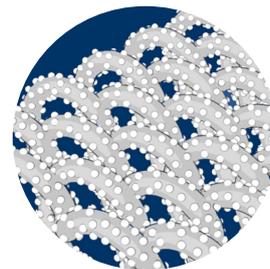
An additional benefit of the Biomaster technology is its ability to reduce odour-forming bacteria.

Laboratory tests show that fabric treated with silver-ion treated technology produce fewer malodours and therefore provide a fresher environment.

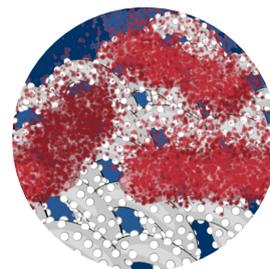
Biomaster treated items don't have to be washed as often and can be washed at a lower temperature, thereby saving water and energy.

This causes less damage to the fabric and increases durability, whilst retaining the antimicrobial benefit associated with much hotter wash cycles.

To confirm efficacy we conduct exhaustive tests that simulate the usage of the article.



The Biomaster silver ions are trapped in the textile



When micro-organisms are present, they are unable to replicate and therefore die



The textile will be more hygienic and smell fresher with Biomaster