

# MICRO-ORGANISMS IN THE GYM: THE POLYGIENE BIOMASTER SOLUTION



The reality of sharing gym equipment with potentially thousands of other people is that you are highly likely to come into contact with a few germs along the way. While you might be a conscientious sanitiser, always wiping down your gear before and after use, fellow gym users may not. Your workout space is a breeding ground for potentially harmful fungi and bacteria.

1. Infections spread easily in any kind of close quarters. Sweaty treadmill and exercise bikes are more likely to get wiped down after use than free weights are but that doesn't mean these machines are clean. In a study, 63% of machines that had been disinfected still had traces of rhinovirus, which causes the common cold.<sup>1</sup>
2. Samples collected from gym equipment show that the treadmill, exercise bike and free weight areas are all saturated with germs averaging more than one million per square inch.<sup>2</sup>
3. Human sweat is often found to contain trace amounts of excrement and even E. coli. In a recent study, some gym equipment was found to harbour up to 362 times more germs than a toilet seat.<sup>3</sup>
4. 70% of bacteria found on gym equipment is potentially harmful and in some cases the germs were antibiotic resistant.<sup>4</sup>
5. The bacteria found to be most prevalent across all gym equipment is gram-positive cocci, a bacterium that commonly causes pneumonia and septicemia.<sup>5</sup>
6. Exercise bikes are 39 times more germ-riddled than the average food-court or cafeteria tray.<sup>6</sup>
7. Drinks bottles with a pull-up spout or built in straw are a potential risk as these areas can be very difficult to clean.

8. The most common infection-causing fungi in gyms are athlete's foot and jock itch. Both thrive in warm, dark, moist environments such as sweaty trainers or gym locker rooms. Not only can the feet and groin be affected, but also armpits and under the breasts
9. Exercise mats are a hot-spot for micro-organisms. As you stretch, strike a yoga pose, or take a group exercise class, you could be lying in a slew of microbes that can cause skin infections, athlete's foot, colds and flu and hepatitis A.<sup>7</sup>
10. Disease-causing microbes can latch on to your gym bag every time you place it on a bench, in a locker, or on the floor. The most common bacteria to hitch a ride are staphylococcus, Salmonella, E. coli and pseudomonas, which can cause eye infections.<sup>8</sup>
11. Harmful bacteria such as Salmonella and MRSA will not be removed from a fabric, for example a gym towel, just by washing it<sup>9</sup>

<sup>1,2,3,4,5&6</sup> Clinical Journal of Sports Medicine | <sup>7</sup> Fitnessmagazine.com |  
<sup>8</sup> Dr. Charles Gerba, microbiologist at the University of Arizona | <sup>9</sup> www.nhs.uk

## Micro-organisms in the gym: The solution

Polygiene BioMaster™ offers 24/7 antimicrobial product protection to gym equipment, including drinking bottles and fabrics, inhibiting the growth of harmful microbes for the lifetime of the item to which it is added.

Exposure to some types of micro-organisms can help boost an immune system, but the germs you're most likely to encounter in a gym could lead to a range of illnesses and skin infections.

- Sanitisers and wipes are good at removing bacteria, but they are only effective for a short time.



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- Any bacteria landing on the surface after the sanitiser ceases to become effective can double every 20 minutes.
- In tests, 1 million E. coli cells, known to cause diarrhoeal infection, survived 48 hours on a surface before becoming undetectable – enough time to cause serious illness.
- Frequently touched items such as exercise mats accumulate bacteria all day long. Aerobic bacteria - the kind that grows and thrives when oxygen is present - can thrive on just about any surface in a gymnasium or locker room.
- Polygiene BioMaster can be easily introduced into almost any type of exercise equipment offering product protection resulting in fewer bacteria on surfaces.

The active antimicrobial agent is built into the product during the manufacturing process, so the protection lasts for the useful lifetime of the treated article.

Polygiene BioMaster only imparts antimicrobial properties and does not affect the basic colour or surface finish of any product in which it is used.

Independently tested in thousands of applications, Polygiene BioMaster is proven to inhibit the growth of most types of harmful bacteria.

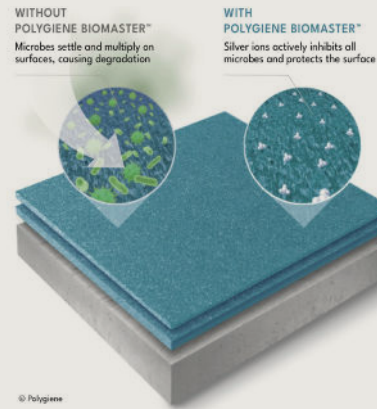
## Where is Polygiene BioMaster used?

Polygiene BioMaster is used in the home and leisure catering and hospitality industries - just about anywhere that can harbour bacteria and increase the likelihood of infection. An additional benefit of Polygiene BioMaster technology is its ability to reduce odour-forming bacteria. Laboratory tests show that fabrics treated with treated produce fewer malodours and therefore provide a fresher environment.

Polygiene BioMaster treated fabrics can be washed less frequently and 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.

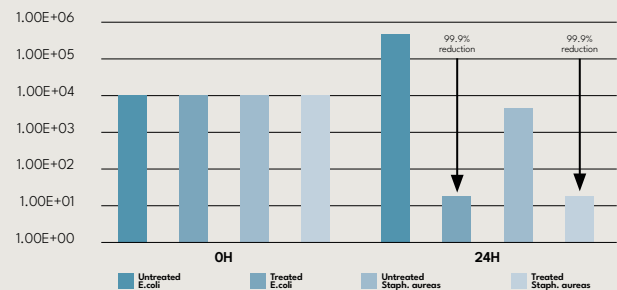
## How is Polygiene BioMaster added to my product?

Polygiene BioMaster is added to the product during the manufacturing process. Easily incorporated into any plastic, coating, paint or textile, it becomes an integral part of the item. We can develop an antimicrobial solution for your product, including testing, in as little as four weeks.



## How effective is Polygiene BioMaster?

In typical tests, after 24 hours surfaces treated with Polygiene BioMaster showed a reduction in the levels of E.coli and Staphylococcus aureus by over 99% achieving ISO 22196:2011.



ISO 22196 results comparing bacterial load on an untreated surface with a Polygiene BioMaster protected surface.

## How does Polygiene BioMaster work?

01

**Polygiene BioMaster** binds to the cell wall disrupting growth

02

**Polygiene BioMaster** ions interfere with enzyme production, stopping the cell from producing energy

03

**Polygiene BioMaster** interrupts the cell's DNA preventing replication



## Learn More



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