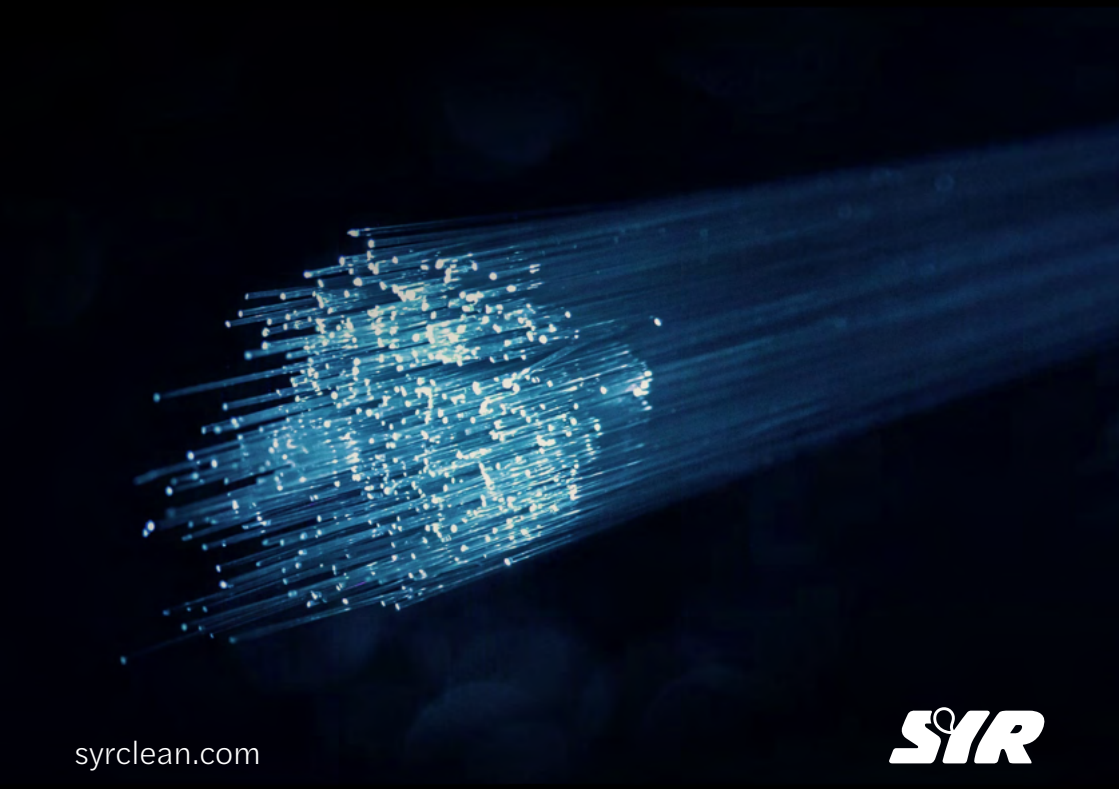
# Can Microfibre clean effectively using only water?

> Scot Young Research Ltd



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## > CAN MICROFIBRE CLEAN EFFECTIVELY USING ONLY WATER?

A material that has grown exponentially in popularity within the cleaning industry in recent years, microfibre is widely touted as an environmentally-friendly solution to a range of hygiene challenges, a ‘green’ alternative to traditional cleaning products made of plastic, cotton, paper or other substances. According to the vast multitude of cleaning blogs that now swear by products made from the material, microfibre is an innovative new way of cleaning surfaces quickly and sustainably, capable of removing stains like magic with just the use of water.

But how true are these claims? What makes microfibre perform so effectively as a cleaning tool, and can it really be used to eliminate bacteria on surfaces without the use of chemical cleaners? Microfibre may have been labelled as an eco-friendly addition to cleaning cupboards, but as, without a doubt, the efficacy of a product and whether it can provide a thorough, hygienic clean remains the most important consideration when choosing a cleaning tool, the ability of microfibre to offer both sustainability and an exceptional cleaning performance must be evaluated.

## > WHAT IS MICROFIBRE?

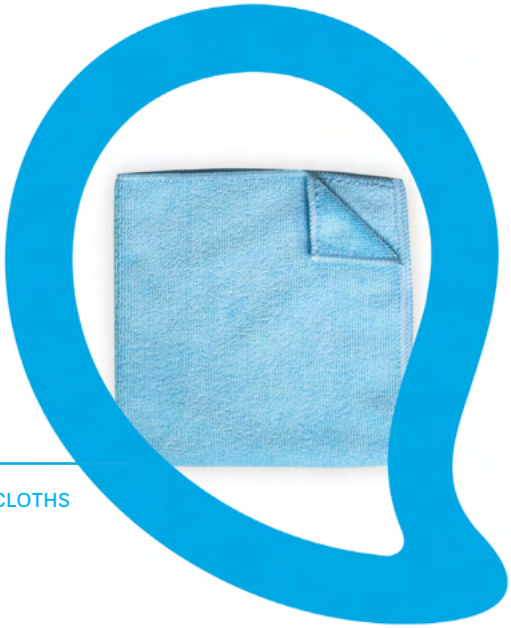
Microfibre can be generally be understood as a material composed of very fine and small synthetic yarn, typically made by fusing polyamide (nylon) and polyester. The bonds between these materials is then split under high pressure, creating myriads of tiny filaments, each with a diameter measuring 100 times smaller than that of human hair, with a web of microscopic spaces in between. Once woven, the result of this process is a fabric that is extremely soft and lightweight, as well as highly absorbent, making it ideal for a range of different purposes, including as furniture, upholstery or clothing.

Although microfibre has become a sought-after fabric across a range of different industries, few have adopted it so broadly as the cleaning industry. The high quality weave of most microfibre products, combined with the fact that polyester and nylon are non-organic, non-rotting substances, means that microfibre cloths, mops, dusting sleeves and other cleaning tools will not deteriorate as rapidly as many traditional alternatives, remaining more durable and hygienic than paper or cotton even with repeated use.  With many microfibre products capable of withstanding daily use and hundreds of washes before needing to be replaced, it is not difficult to understand why microfibre has become so popular.

## > HOW DOES MICROFIBRE WORK?

In addition to making products lightweight and extremely soft, the numerous microscopically small filaments that make up microfibre also cause it to be highly absorbent. Boasting a much large surface area than most traditional cloths, microfibre cleaning cloths are able to loosen dirt, dust, liquid, oils and even bacteria from surfaces due to the high volume of fibres. Then, as a result of the high pressure splitting process and the tiny spaces created between the split microfibres, substances can be trapped within the cloth, allowing them to be quickly and efficiently removed from the surface.

Part of the reason why this is possible is because of the electromagnetic charge of the fibres. The individual fibres that make up microfibre carry a positive charge, mainly as a result of the polyester that forms them, which statically attracts substances like dust, dirt and grease, which usually are negatively charged. This creates an adhesive-like effect, separating messes from surfaces and holding them within the fabric.



ONE OF OUR
MICROFIBRE CLOTHS

> **microfibre can attach and trap contaminants without using chemicals, only requiring water to loosen messes on the surface being cleaned.**

This process is designed to replicate the reaction that normally occurs with the use of chemical cleaning solutions like traditional detergents; when cleaning with soap, water and a standard cleaning rag, the molecules within the solution stick to particles of dust, dirt and other messes, allowing them to washed away when the product is rinsed. It is here that the environmentally-friendly capabilities of microfibre can begin to be seen, as microfibre can attach and trap contaminants without using chemicals, only requiring water to loosen messes on the surface being cleaned.

As a result, microfibre can be used to clean a wide variety of different messes on different kinds of surfaces. The soft fabric construction of the material means that it can be used on even delicate surfaces like glass windows, mirrors and even digital displays, leaving them clean, smear-free and safe from scratches, as well as performing without the risk of damaging the surface with chemical cleaners. Microfibre can be used for both dry dusting, removing and trapping particles rather than just dislodging them and dispersing them into the air, and wet wiping, with high quality microfibre cloths capable of absorbing up to eight times their own weight in water.

## > CAN MICROFIBRE REMOVE BACTERIA FROM SURFACES?

In addition to removing substances like dirt, dust, grease, oils and liquid spillages, microfibre is also renowned for its ability to remove bacteria from surfaces. Similarly to the process that occurs with microfibre and both solid and liquid messes, microfibre products that are of a high quality construction – with a dense weave and fibres with an ultra-fine diameter – can pick up even microscopically small bacteria and trap them, effectively removing them from the surface.

Under research conditions, microfibre has proven to be far more effective at removing microbial loads compared to other types of cloth used in cleaning. Quality microfibre has been found to remove up to 98% of bacteria and 93% of viruses from contaminated surfaces without the use of cleaning chemical, while traditional cotton cloths have only removed 30% and 23% respectively. For this reason, microfibre products have rapidly been adopted for cleaning in even sensitive hygiene environments, such as hospitals and care homes, where they have proven to be useful on a range of different hard surfaces in reducing the counts of bacteria associated with HCAIs (healthcare-associated infections), including MRSA.

It is important to consider that as effective microfibre is in removing bacteria from surfaces with only water, the material alone totally cannot eliminate bacteria. Where chemical cleaners like disinfectant are designed to inactivate microorganisms on a chemical level, microfibre cannot do so with only water; it simply traps the bacteria and viruses so they can be removed from the surface. As such, microfibre cleaning products need to be carefully laundered after cleaning to remove microbial loads from the fabric before they can be used again. Like any cleaning tool, microfibre will not always be a cure-all solution to reducing bacteria counts on surfaces: although microfibre has proven to reduce bacterial counts on contaminated surfaces, it is not used following proper methods and procedures, the opposite effect may ultimately be achieved, and the cloth may become a method of cross-contamination between surfaces.

That being said, microfibre has also proven to be far more hardwearing than traditional cotton cleaning cloths. As was said previously, the inorganic substances that make up microfibre, nylon and polyester, means that the material does not rot or deteriorate to the same degree as products made using natural materials. In addition to resulting in cost savings for businesses, not having to replace durable microfibre cleaning products as frequently as their non-microfibre counterparts, it also ensures that potentially dangerous bacteria are not able to grow within the product where they may be transferred onto other surfaces while cleaning, a common problem with many traditional mops in particular. What's more, there is even evidence to suggest that microfibre cleaning products, rather than wearing down with each use, actually improve in performance with repeated washings, continuing to remove bacteria from surfaces even after being in use for significant amounts of time.

Overall, microfibre can be regarded as not only an acceptable substitute for traditional cleaning products made of substances like cotton, but a superior one, offering a more efficient cleaning performance. Capable of removing a wide variety of messes and contaminants, including bacteria and viruses, microfibre is a durable and reliable cleaning material, as well as a more sustainable option, cleaning well with only the use of water and little to no cleaning chemical.

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