



MICROFIBER

Microfiber cloths and mops are essential tools in an infection-control program.¹ The goal of an infection-control program is to prevent the spread of infectious disease by reducing contact with pathogenic microbes.

What is Microfiber?

Microfiber is a polyester and nylon (polyamide) fiber that is used to make fabric. The fiber is split many times smaller than a human hair. This makes it a superior tool for cleaning and germ removal because it is able to penetrate cracks and crevasses that cotton cloths or paper towels are not able to reach. The increased surface area of the fibers and their star shape also allow them to absorb up to 7 to 8 times their weight in liquid. The fibers generate a static electric charge when moved across a surface that attracts dust and contains it, rather than spreading it around or releasing it into the air when dry dusting.

The term microfiber technically applies to fiber that is 1.0 denier or smaller. The smaller the denier measurement, the finer and more effective the microfiber. Superior microfiber measures 0.13 denier. Manufacturers have created products with different weaves and weave densities for specific types of tasks. Ask the vendor about the grades of microfiber that are available and which grade is best for specific cleaning tasks.

Benefits of Microfiber

1. **Effective at capturing microbes:** Several studies have determined that microfiber is better than cotton at capturing bacteria. The University of California, Davis Medical Center compared the amount of bacteria picked up by a cotton-loop mop and by a microfiber mop. The cotton-loop mop reduced bacteria on the floors by 30%, whereas the microfiber mop reduced bacteria by 99%.²
2. **Prevents cross-contamination:** Microfiber cloths and mops are available in different colors so that a color-coding system can be implemented for specific uses. For instance, in bathrooms, pink cloths can be used for toilets and yellow cloths for sinks. Green cloths can be used for office cleaning.
3. **Reduces chemical and water use more effectively:** A University of Massachusetts Lowell study³ determined that because the microfiber mopping system uses less water and chemicals, it reduced the amount of water and chemicals handled, and it eliminated the need to wring the heavy cotton mops, resulting in less potential for worker injury.



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Environmental Sampling for MRSA in Fire Stations Project

<http://depts.washington.edu/frcg/MRSA.html>

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Infection Control Using Microfiber Cleaning Tools and Proper Disinfection Procedures

At your fire station, include microfiber materials into your comprehensive cleaning and infection control program. Frequently clean surfaces with microfiber and an all-purpose cleaner to remove dirt and visible contaminants. Use wet microfiber mops to clean floors in offices, kitchens, bathrooms, and tiled areas. Dusting cloths require no polish or other chemical while removing up to 99% of dust, dirt, and other materials. Dust wands reach places that are difficult to access and remove the dirt and dust that have accumulated.

Implement a targeted disinfection program in your fire station. Frequent and correct cleaning of high-risk and high-touch surfaces with the microfiber removes microbes on surfaces and eliminates conditions (food and water) that some microbes need to survive. Several key strategies to implement:

1. Identify, clean, and disinfect high-touch non-porous surfaces (e.g., doorknobs and TV remote control) and high-touch areas (e.g., gym) in the fire house that are touched by a variety of hands.
2. Use an EPA-registered product effective against the germ you are concerned about, such as MRSA.
3. Follow the manufacturer's product use and management instructions, including the correct product dilutions and the amount of time a product should stay wet on the surface.
4. Wash microfiber only with other microfiber materials because it can pull the lint out of cotton or other materials during the washing and drying process. Use only laundry detergent, NOT bleach.

References

- ¹ L. Rose and C. Westinghouse. Cleaning for Healthier Schools-Infection Control Handbook. 2010. Toxics Use Reduction Institute, University of Massachusetts Lowell. Chapter 6.C. Using Microfiber Cloths and Mops for Infection Control. Available at: www.informedgreensolutions.org.
- ² Environmental Protection Agency, Using Microfiber Mops in Hospitals, Environmental Best Practices for Health Care Facilities. 2002. Region 9 Pollution Prevention Program. Available at: <http://www.epa.gov/region9/waste/p2/projects/hospital/mops.pdf>.
- ³ J. Desa, A. Bello, K. Galligan, et al., Case Study: Are Microfiber Mops Beneficial for Hospitals? Sustainable Hospitals Project, A Project of the Lowell Center for Sustainable Production, University of Massachusetts Lowell. 2003. Available at: <http://www.sustainablehospitals.org/PDF/MicrofiberMopCS.pdf>.
- ⁴ Microfiber.com, Fabric of the Future, What is microfiber? Available at: <http://www.microfiber.com/microfiber.html>.
- ⁵ W. Rutala, M. Gergen and D. Weber, Microbiologic Evaluation of Microfiber Mops for Surface Disinfection. 2007. Association for Professionals in Infection Control and Epidemiology 35(9):569-573.

