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Dear Mike Scalise,

This letter is in response to your information request regarding advantages of ARAMARK's industrial microfiber mop laundering process compared to homestyle washer laundering.

Microfiber has been proven to be effective in cleaning. Microfibers can remove up to four times more dirt and bacteria than cotton. The industrial laundering process relies on many mechanisms to remove soils and microorganisms from the microfiber mop wash classification. The numerous steps of a wash formula act as a source of continual dilution. The temperatures of a wash cycle act to increase the solubility parameters of the water and increase the permeability of the microfiber mops. Mechanical action provides the movement of the textiles in the washer. The detergents function to saponify fats, denature proteins and help loosen soil. Time is regulated in the industrial wash processes for soil removal and contact times.

The ARAMARK industrial microfiber mop wash classification is designed with all of the factors required for optimal soil and microorganism removal. The ARAMARK wash formula includes an EPA registered sanitizer product included in a sanitization step, called AdvaCare 120 Sanitizer/Sour, EPA Registration No. 1677-193. Under sanitizer concentration levels, per EPA label registration, the product assures a 99.9% (3 log) reduction of *Staphylococcus aureus*, *Klebsiella pneumonia*, *Pseudomonas aeruginosa* and *Methicillin Resistant Staphylococcus aureus* (MRSA) in the wash process.

Following the laundering process, the microfiber mops are dried which also can contribute to the destruction of some microorganisms from the microfiber mops.

The industrial wash process factors work together to reduce microorganisms, based on the following factors: chemicals used in laundering, the use of an EPA registered laundry sanitizer product, water temperatures, water exchanges, drying temperatures in dryers. All of the factors can contribute to the overall cleanliness, removal and destruction of microorganisms from the textile.

The following is a summary of ARAMARK industrial laundry program vs. a homestyle washer program.

1. Homestyle washing may not meet the Center for Disease Control (CDC) guidelines. The CDC states, "Hot water provides an effective means of destroying microorganisms. A temperature of at least 160F for a minimum of 25 minutes is commonly recommended for hot-water washing. Studies have shown that a satisfactory reduction of microbial contamination can be achieved at water temperatures lower than 160F if laundry chemicals suitable for low-temperature washing are used at proper concentrations." ARAMARK industrial wash program meets CDC requirements, based on the proper use of chemistry and product concentrations. In addition, ARAMARK industrial laundering process includes a sanitization step with an EPA registered product utilized at the sanitizing concentration, per EPA label directions.
2. ARAMARK industrial washers have superior controls to a typical homestyle laundry machines. The industrial washers have microprocessors which are programmed for optimum temperatures, water levels, mechanical action, and customized wash formulas. Steam is available to maintain specific water temperatures.
3. ARAMARK standard formulas include a sanitization step. The sanitization product provided by Ecolab is an EPA registered sanitizer, called AdvaCare 120 Sanitizer/Sour, EPA Registration No. 1677-193. The use of a sanitizer is an assurance of a 99.9% reduction of *Staphylococcus aureus*, *Klebsiella pneumonia*, *Pseudomonas aeruginosa*, and *Methicillin Resistant Staphylococcus aureus* (MRSA) in the wash process. A peracid-based laundry sanitizing product is not typically available for a homestyle washing program.
4. The industrial laundry chemicals are added to the washers through an automated chemical injection system. This system delivers the correct amount of chemistry every time, and eliminates safety concerns for employees handling chemicals. A homestyle washing program generally requires hand dosing of detergent which may provide inconsistent soil removal results and safety concerns.
5. Commercial dryers are used at ARAMARK are outfitted with humidity controls and customized dryer formulas to produce desirable end results and temperatures.
6. Each ARAMARK facility is visited and reviewed monthly by an Ecolab sales and service representative that reviews washroom procedures, operations of equipment and answers any operational or cleaning issues. The ARAMARK chemical program is designed by Ecolab, the global leader in providing cleaning, sanitizing products, services and programs.

If you have any questions, please let me know.

