

ACT Natural Micro-Fiber Cloth and Mop Microbiological Use Study December 1998

The purpose of the study was “to develop and perform a test method which would demonstrate the efficacy of the ACT Natural Cloths and Mops in removing microbiological contaminants from various surface types.”

The question has never been “do these products clean the dirt that we can see” – all one needs to do is try them to be convinced that they work. But the question has been, how well do they clean the dirt (contamination) that we do not see? Therefore, throughout this testing two different microorganisms (Staphylococcus aureus ATCC 6538 and Escherichia coli ATCC 8739) were used along with normal household dirt particles taken from a vacuum bag. In addition to testing the efficacy of the cloths/mops to clean hard (non-porous) surfaces, the laboratory also conducted tests on cloth saturation, cross contamination, and methods used to clean dirty (contaminated) cloths. All tests were conducted in triplicate and data depicted in this fact sheet reflects the average of all three tests.

Executive Summary

The Executive summary from the technical laboratory report provides a summation of several key areas from the testing and it is provided in its entirety below;

“The Act Natural Cloths removed an average of 99.94% of all microorganisms throughout the test period. Only the conventional Cloth in conjunction with a disinfectant (which had to remain on the test surface for 30 seconds) performed better. Using the Act Natural cloth with water provides clean surfaces without the use of harsh chemicals. The effectiveness of these cloths was not reduced even after 10 surfaces in succession as demonstrated by the absorption test data.”

The Act Natural Mops were significantly more effective in removing bacteria than the conventional Mops. In the first series of test with the mops, the conventional mops were “new” ; they had not been used and were dry. After use, we boiled the mops, rung them out, then left them at room temperature. These mops developed a significant bioburden (bacterial population) under these “normal use” conditions. This is demonstrated by the second set of test data (for the ceramic surface), where there were more bacteria on the test surface after cleaning than before. Therefore, the repeat use of a conventional mop, even with a disinfectant, actually adds bacteria to the surface being cleaned.”

The test also demonstrated that after a contaminated (dirty) area had been cleaned with the ACT – tex Multi-purpose cloth, the contamination was held inside the fiber of the cloth and was not transferred to another surface. Lastly, laboratory testing showed that washing the cloths in a standard washing machine on the hottest cycle was as effective in removing bacteria from the cloth as was boiling.

Compiled results on the Act – tex Multi-Purpose Cloth:
Cloth testing Smooth Formica Surface

Table 1

Type of Cleaning Material	Cleaning Agent	Percent Effective(%)
ACT-tex Multi-purpose cloth (New)	Tap Water	99.951%
ACT – tex Multi-purpose Cloth (Used)	Tap Water	99.9506%
Conventional Dish Cloth (New)	409R as Disinfectant	99.9994%
Conventional Dish Cloth	Lysol Pine Action Cleaner	99.7778%
Conventional Dish cloth	Bleach Water (60 ppm)	99.000%

“New” is defined as 12 or less previous uses and “used” is defined as more than 50 uses.

Cloth Testing Textured Formica Surface

Table 2

Act-tex Multi-Purpose Cloth (New)	Tap Water	99.9721%
ACT-tex Multi-Purpose Cloth (Used)	Tap Water	99.9646%
Conventional Dish Cloth	Lysol R Pine Action Cleaner	90.3571%
Conventional Dish Cloth	409 R as disinfectant	99.9977%
Conventional Dish Cloth (New)	Bleach Water (60 ppm)	98.7073%

Analysis of results (Table 1): These results demonstrate the ACT-tex Multi-Purpose Cloth is extremely effective. Only 409R used as a disinfectant did better. Remember that the surface was saturated with a full concentration of 409R and allowed to stand for 30 seconds. Of particular note is the comparison of the ACT-tex Multi-Purpose Cloth with the bleach water solution which is recognized as a standard for cleanliness. Even though the percentages are very close, a mathematical analysis of these percentages shows that the bleach water left much more contamination on the surfaces as compared to the ACT-tex Multi-Purpose Cloth (20 times the amount of contamination on the smooth surface and 46 times on the textured surface).

Analysis of results (Table 2): These results demonstrate that the ACT-tex **Damp** mop is more effective than a conventional mop. The most significant aspect of the mop testing is what happens to the conventional mop after being used for the first time. The conventional mops used on the ceramic tile surface had been used only once on the previous test. These mops were “0%” effective on the second test even using a disinfectant. A conventional mop may make the floor surface “look” cleaner, however, the “cleaned” surface retains very high levels of bacterial contamination (microorganisms).

*ACT-tex Multi-Purpose cloths could clean up to 40 sq. ft. of Formica counter with 99.7% effectiveness. Remember the recognized standard was bleach water between 98.9 & 99.9%

