

Not All Hygiene Monitoring Systems are Equal

3M™ Clean-Trace™ System

More reliable ATP tests

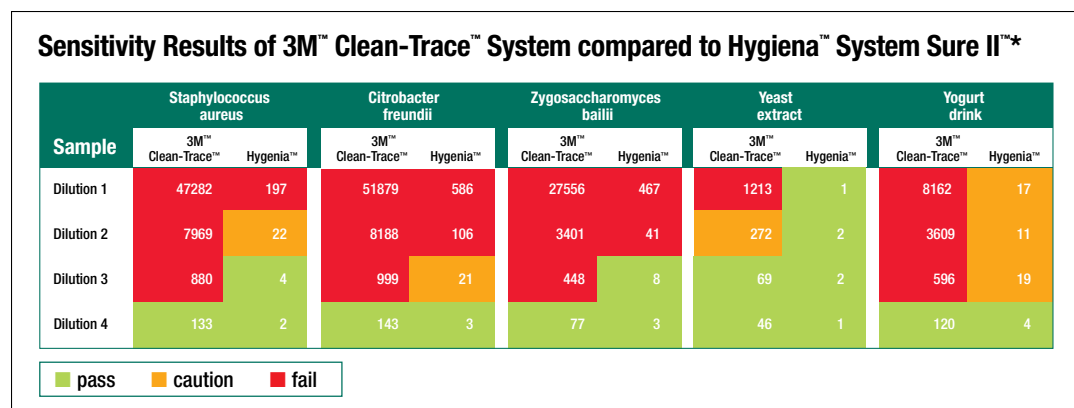
Why are sensitivity and repeatability important? When an adenosine triphosphate (ATP) hygiene monitoring system has poor sensitivity or repeatability, there is a substantial risk that the result provided does NOT truly represent the hygienic status of the location tested and therefore provides false positives (leading to unnecessary chemical and labor costs and production delays) or false negatives (leading to releasing a contaminated piece of equipment).

A system that is sensitive to low level contamination of a surface by microorganisms and/or food residues allows you to more accurately understand the status of a test point. A test that will detect low level of contaminants will help ensure that you can take the appropriate action i.e., positive release following a pass result, or a re-clean following a fail result. The ability of a system to repeat results gives you peace of mind that the result is reliable and the actions taken are appropriate.

Greater sensitivity provides better information to help make the right decisions

An independent study conducted by Cara Technology Limited, *Protocol for assessing the sensitivity of hygiene test systems for live microorganisms and food residue*¹, compared the 3M™ Clean-Trace™ NG Luminometer and 3M™ Clean-Trace™ Surface ATP Test System (formerly Biotrace™ Uni-Lite™ NG/Clean-Trace™ System) and Hygiena™ System SURE II™ ATP System. The study tested each system's ability to detect a variety of microbes and food substances over a range of concentrations.

The study concluded, the Biotrace System has better sensitivity and repeatability for residues of food and live microorganisms, and goes on to say, compared to the Biotrace equipment, the **“Hygiena System produced almost 60% false negatives”** based on the samples tested. In the study, serial dilutions of microbial cultures, yeast extract, and yogurt were tested with both the 3M Clean-Trace System and the Hygiena System using the manufacturers' recommended pass/caution/fail limits. The average RLU value and its interpretation, based on the manufacturers' recommended pass/fail limits, for each dilution level is shown in the chart below. The 3M Clean-Trace System showed much greater sensitivity to low-level contamination. As the chart below indicates, in many of the dilutions, a FAIL result was obtained with the Clean-Trace System when a CAUTION or PASS result was obtained by the Hygiena System.



* Criteria for pass/fail limits were set at Pass: 150 RLU/Fail: 300 RLU for the 3M Clean-Trace System and Pass: 10 RLU/Fail: 30 RLU for the Hygiena System as per the respective manufacturer's recommended pass/fail limits. Note the 300 RLU for the Clean-Trace FAIL level.



Superior repeatability over other commercially available systems tested

In another study conducted by Cara Technology Limited, *The repeatability of hygiene test systems in measurement of low levels of ATP*², four commercially available ATP bioluminescence systems were tested for repeatability of test results.

In the study, 30 tests were performed on the four commercially available systems in accordance to the manufacturer's directions. To measure repeatability, the swabs were spiked with identical amounts of ATP for each test reading. The study concluded the 3M™ Clean-Trace™ NG Luminometer and 3M™ Clean-Trace™ Surface ATP Test "was the most repeatable...". This means you can be confident the 3M Clean-Trace System is providing you with reliable information to help you make the correct decisions for your plant, whereas other systems may leave you guessing.

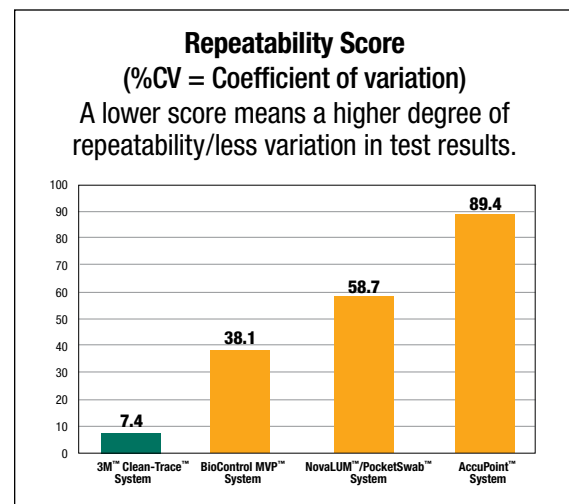


3M™ Clean-Trace™ Luminometer and 3M™ Clean-Trace™ Data Trending Software

Your ATP testing Maximized

By using the highly sensitive and repeatable system from 3M Microbiology, you can be confident that the results you obtain provide a clear picture of cleaning performance and the actions taken on the basis of the results are sound ones that can save your company time & money.

The 3M™ Clean-Trace™ NG Luminometer and 3M™ Clean-Trace™ Surface ATP Test "was the most repeatable..."



References: 1. Protocol for assessing the sensitivity of hygiene test systems for live microorganisms and food residue. W.J. Simpson, J.L. Archibald, C.J. Giles. Cara Technology Limited, Leatherhead Enterprise Centre, Randalls Road, Leatherhead, Surrey, KT22 7Ry, UK Report 120906, 27 July 2006 2. The repeatability of hygiene test systems in measurement of low levels of ATP. W.J. Simpson, C.J. Giles, H.A. Flockhart. Cara Technology Limited, Leatherhead Enterprise Centre, Randalls Road, Leatherhead, Surrey, KT22 7Ry, UK Report 30606, 27 July 2006

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