

# HyWa-CHECK BIOMONITORS

Risk class 1 Biomonitors for the assessment of Process Hygiene in textile washing processes



**HyWa-Check Biomonitors with *Staphylococcus arlettae* 10<sup>5</sup>**

**Art. Nr. 503**

**HyWa-Check Biomonitors with *Enterococcus faecium* 10<sup>5</sup>**

**Art. Nr. 504**

**HyWa-Check Biomonitors with *Pseudomonas fluorescens* 10<sup>5</sup>**

**Art. Nr. 505**

**HyWa-Check Biomonitors with *Saccharomyces cerevisiae* 10<sup>4</sup>**

**Art. Nr. 506**



## **Introduction:**

Due to changing washing habits in household laundry (like the extended use of liquid detergents instead of heavy duty powder detergents, the decreasing washing temperatures and the lowering water consumption) a more critical hygiene situation in household laundry is expected. This is probably not an issue for healthy persons, but for babies, elderly, pregnant and immunocompromised persons, it could serve as health risk. Ill family members (influenza, diarrhea, athlete's foot) can be as well a risk for sufficient laundry hygiene. With the HyWa-Check biomonitors, we provide a useful tool for the surveillance, the hygiene assessment and the development of textile washing processes. The use of risk class 1 test germs ensures a safe carrying out of the test.

## **Description:**

HyWa-Check Biomonitors are used for the quantitative hygiene assessment of textile washing processes. The cotton swatches are contaminated with a minimum microbial load of 1x10<sup>5</sup> germs per swatch (Bacteria) and 1x10<sup>4</sup> germs per swatch (Yeast). The behaviour of the used risk class 1 test germs have been compared and adjusted to reference risk class 2 test germs of the most commonly used standards and guidelines (RKI / DGHM / NSF P172) and reach comparable reduction rates.

## **Analysis:**

The analysis of the biomonitors is variable. For a quantitative result, it is recommended to dissolve the biomonitors in a buffer, perform a dilution series, plate the single dilutions and determine the microbial plate counts.

The biomonitors can alternatively be shipped to a microbiological lab for analysis and determination of microbial reduction rates.

**Advantages:**

*The use of risk class 1 germs has several advantages. The transnational shipment of the biomonitors is possible. The handling is simplified and safe and the HyWa-Check biomonitors can be applied without having a fully equipped microbiological lab. No potentially dangerous germs will be implemented in washing machines due to the hygiene assessment tests. A variable analysis allows an optimization of accuracy and costs of the tests.*

**Validation:**

*The HyWa-Check Biomonitors reach comparable results as the NSF Protocol P172 "Sanitization Performance of Residential and Commercial, Family-Sized clothes washers"(Test report Nr. 201020102 NSF/EMPA). This test series were done in cooperation with NSF International.*

**Quality:**

*A quality control certificate is enclosed to every biomonitor shipment with the following information: microbial load of the biomonitors and reduction rate in a reference washing test, ATCC strains, date of expiry, and lot-number.*

**Shipment:**

*Within 2–3 working days, in an isolation box, cooled.*

**Storage:**

*In sealed vials at 4–7 °C*

**Shelf life:**

*6 weeks after production date*

**Price:**

*Please take the current prices at [www.swissatest.ch](http://www.swissatest.ch)*

**Publications:**

*Amberg, C., Faeh, D. and Frey, F (2010). Novel Method to Assess the Sanitization Efficacy of Laundry Processes (HyWa-Check). Poster Presentation AOCS Montreux 2010.*

*Amberg, C. (2011). HyWa-Check – Novel Screening tool to assess the process hygiene of household washing cycles. Presentation at IDC Conference in Düsseldorf, Mai 2011.*

*Amberg, C. (2011). Hygiene performance of household washing machines – New protocols to assess process hygiene and biofilm removal. Presentation at Sepawa Austria in Salzburg, Mai 2011.*

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