

Efficacy testing of laundry disinfection in the domestic area

The standard DIN EN 17658 describes a practical test method (phase 2 stage 2) for testing the efficacy of laundry disinfectants and hygienic detergents at low temperatures ($\leq 40^{\circ}\text{C}$) in the domestic area.



Your benefit

- Determination of the bactericidal and yeasticidal effect of washing chemicals for domestic laundry for the approval as a biocidal product according to BPR
- Product testing to determine the effective dose
- Basis for the preparation of instructions for use
- Normative test report with detailed results
- Simulation of a household washing process in the temperature range between 20 and 40 °C, suitable for temperature-sensitive textiles

This test is suitable for

- the independent evaluation of the disinfecting efficacy of laundry disinfectants and hygienic rinsers for domestic use
- the evaluation of biocidal products regarding treatments to prevent malodours and aesthetic damage caused by microorganisms

Principle of testing

Textile cotton carriers will be contaminated with a test suspension of the test organisms in bovine serum albumin. After drying, the microbial carriers are washed in a standardized laboratory test device with textile ballast load.

The main wash cycle or the rinse cycle can be simulated. At the end of the disinfection step, the reaction is stopped by transferring the carriers to a neutralizing solution. The remaining microorganisms are then extracted from the textile carriers. The quantity of recovered test microorganisms is determined, and the reduction rate compared to an untreated control carrier is calculated. For process control, the transfer rate to sterile cotton carriers and the microbial count in the washing liquor are determined.

Test organisms

Obligate test organisms:

- *Pseudomonas aeruginosa* ATCC 15442
- *Escherichia coli* ATCC 10536
- *Staphylococcus aureus* ATCC 6538
- *Enterococcus hirae* ATCC 10541
- *Candida albicans* ATCC 10231

Additional test organisms (optional):

- Dermatophytes
- Microorganisms associated with malodour



Test criteria

For laundry disinfection in domestic and non-medical areas, specific reduction rates of the tested microorganisms must be achieved. This is considered separately for the main wash cycle and the rinse cycle.

Additionally, the reduction of microorganisms associated with malodour and aesthetic impairment (e. g. staining or discoloration) can be investigated.



Test sample requirements

Prerequisites

- Phase 2 Step 1 tests according to DIN EN 1276 and DIN EN 1650 (if carried out in another test laboratory, an additional control test for the neutralizer is required)

Test duration

- 4-6 weeks; date confirmation after receipt of test sample

Quantity of test material

- Sufficient amount of detergent and disinfectant or hygiene rinser for 2 kg of laundry