

Efficacy testing of laundry disinfection in the domestic area

Objective

The test standard DIN EN 17658:2022-11 describes a practical laboratory procedure (phase 2 step 2) for standardised testing of the efficacy of laundry disinfectants and hygienic rinsers at low temperatures ($\leq 40^{\circ}\text{C}$) in the domestic area. The standard defines minimum performance requirements for the microbicidal efficacy to be achieved in the main wash or rinse cycle.



Your benefit as a customer

- Determination of the bactericidal and levurocidal effect of household laundry chemicals
- 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

The test is suitable for

- the independent evaluation of the disinfecting efficacy of disinfectant detergents as well as hygienic rinsers for the domestic area
- the evaluation of biocidal products regarding the treatment to avoid malodour as well as aesthetic impairment by microorganisms



Description

Textile cotton carriers are contaminated with a test suspension of test strains in bovine serum albumin. After drying, the germ carriers are washed in a standardised manner in a normative 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 into a neutralisation solution. The remaining test organisms are then extracted from the textile germ carriers and quantified. The reduction rate is calculated compared to an untreated control. For process control, the transfer rate of the test strains to sterile textile carriers and the microbial count in the washing liquid are determined.

Test strains

Obligate test strains:

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

Additional test strains (optional):

- Dermatophytes
- Microorganisms associated with malodour

Test criteria

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

Alternatively, microorganisms can be reduced by biocidal treatment to avoid malodour and aesthetic impairment (e.g. staining, discolouration, soiling).

Test sample requirements

Quantity of material

- Amount of detergent and disinfectant or hygienic rinser sufficient for 2 kg of laundry

Duration of test

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

