



ACCELERATED DETERGENT PERFORMANCE TESTING

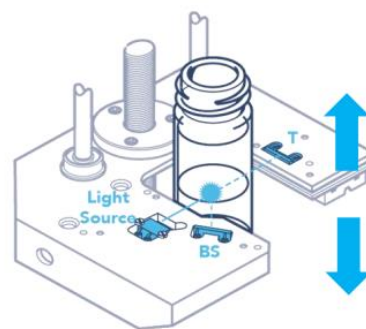
Context

The laundry industry plays a vital role in both household and commercial settings, offering solutions for fabric care, cleanliness, and hygiene. As consumer expectations rise for effective and sustainable cleaning, manufacturers face significant challenges such as formulating detergents that efficiently remove a wide range of soils while maintaining fabric integrity and meeting environmental regulations. Evaluating the cleaning performance of detergents is crucial for product development; however, traditional testing methods are often labor-intensive and time consuming. Rapid and reliable analytical techniques, such as those provided by the TURBISCAN, are therefore increasingly important for accelerating detergent evaluation and innovation.

TURBISCAN: How it works

TURBISCAN technology, based on Static Multiple Light Scattering, consists on sending a light source (880 nm) on a sample and acquiring backscattered (*BS*) and transmitted (*T*) signal all over the height of a sample. By repeating this measurement over time at an adapted frequency, the instrument enables to monitor physical

stability. The signal is directly linked to the particle concentration (ϕ) and size (d) according to the Mie theory:



$$BS \text{ and } T = f(\phi, d, np, nf)$$

The measurement of the *BS* and *T* can be performed either in scanning mode, to provide homogeneity and stability measurement, or with very high frequency for fast time-resolved and online measurement. The measurements are done without any dilution & on the native sample.