

# Technology offer

**Functionalized nanocellulose for capturing of dyes, pigments and microbiological species and inhibiting of their transfer between textiles during machine domestic laundering with potential bactericidal effect**

## Field of use

Textiles, laundry washing, microbial contamination, functional nanocellulose

## Current state of technology

Stage of Development:  
Available for demonstration

## Patent status

Patent pending

## Developed by

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## Background

Removal of dye from originally dyed textile garments and their transfer and disposal to other uncoloured (white and light coloured) garments present in the same wash bath during washing is known as "dye re-deposition" and is one of the most common problems encountered when washing clothes. Another problem with laundry is the removal of microbiological contaminants, which is becoming critical with the increasingly used low washing temperatures and the use of detergents without aggressive bleaches, due to the pursuit of energy-efficient household appliances and environmental awareness. In doing so, household washing procedures are less defined in terms of microbiological efficiency and are still not conducted as they should be, although they are becoming increasingly important. Microbiological efficiency is also a major cause of unpleasant laundry odor.

## Description of the invention

The present invention relates to a functionalized nanocellulose for the removal of dyes and pigments of various chemical structures which are released from dyed textile fibers during laundry washing, especially during the soaking cycle of the first laundering stage. In doing so, it can also act as an inhibitor of the transmission of the potentially present microbial species (viruses, bacteria or their extracts, secretion of human sweat) or even bactericidal (destroys bacteria). The way it is used involves the subjecting of textiles to a washing cycle with preferably at least two washing stages, wherein the delivery phase of the functionalized nanocellulose is carried out in the first phase of the washing cycle.

## Main advantages

This invention represents a solution that significantly improves the shortcomings of existing products related to the speed and efficiency of catching dyes and pigments extracted /released from textile fibers in the first minutes of washing after contact with water, while inhibits the transfer of potentially present microbial substances during laundry or even acts bactericidally.