



# Bac-Pure®

Antimicrobial

by Smart Innovation®

## Benefits of Si Bac-Pure®

- *Antiviral, antibacterial, antifungal.*
- *Keeps textiles decontaminated and odor-free.*
- *Easy to apply and cost-effective.*
- *Sustainable, high efficacy and long durability.*
- *Prevention of cross-contamination and infections.*

## FACTSHEET

### Si BAC-PURE® ANTIMICROBIAL 101-TF

#### TEXTILE FINISH

#### PRODUCT DESCRIPTION

Sustainable functional finish with antimicrobial properties. This treatment is effective for more than 100 washes in the fight against bacteria, virus, fungus, mould and unpleasant smells. Ideal for odor-control and for the prevention of textile contamination and degradation. Si Bac-Pure® provides long-lasting hygiene, freshness and cost-effective added-value to your textiles, fabrics, garments, fibres and nonwovens.

#### EASY APPLICATION

Although the Si technology by Smart Innovation® is unique and patented in 147 countries, Si Bac-Pure® is applied at the manufacturing stage using the existing traditional finishing processes. It is supplied as a liquid and can be applied via padding, exhaustion, kiss-roll or spraying. Si Bac-Pure® is compatible with several other textile finishes and can be applied on both synthetic and natural fibres.

#### SAFE AND EFFECTIVE

Our products are tested according to international standards to meet regulatory requirements and demanding costumers. Si Bac-Pure® is BPR approved, Oeko-Tex Standard 100 compliant and dermatologically tested. With Si Bac-Pure®, 100% of bacteria and over 99% of virus on your textiles are eliminated beyond 100 washes.

#### ECO-FRIENDLY

Smart Innovation® manufactures only environmentally sustainable functional treatments. The active ingredient used in Si Bac-Pure® is USA EPA approved, REACH compliant, does not contain Substances of Very High Concern (SVHC), has no toxicity and no environmental impact. We don't use silver or other toxic substances.

#### LESS WASHES, LESS WATER, MORE SUSTAINABLE

With Si Bac-Pure® you don't need high temperature water to wash off unwanted microbes. This functional antimicrobial treatment will be constantly eliminating bacteria, virus and fungus, contributing to saving water and energy due to less washes, lower temperature and lower detergent use. Less washing also means increased material durability.

#### THE ACTIVE INGREDIENT

The active ingredient used in Si Bac-Pure® is Benzalkonium Chloride which is an organic salt classified as a quaternary ammonium compound. This substance is not harmful, has no environmental impact, has excellent antimicrobial activity, and has been in the market for decades. BKC is currently used in many consumer personal care products such as wetwipes, shampoos, hand sanitizers, pharmaceutical products such as eye drops, skin antispectics, and also in surgical medical disinfection. The World Health Organization (WHO) recommends the use of BKC as an appropriate disinfectant to fight novel coronavirus.

# 99.98% ANTIVIRAL EFFICACY BEYOND 100 WASHES

Si Bac-Pure®'s performance on viral reduction has been tested under the ISO 18184:2019 "Determination of antiviral activity of textile product" standard. The test was performed on the Vaccinia Virus which is considered the model of coronavirus as it is the enveloped virus included in the described standard. The results show that Si Bac-Pure® eliminates 99.98% of viral activity on textiles after 100 washing cycles.

## ANTIMICROBIAL ACTIVITY

Si Bac-Pure® has been tested against various microorganisms and has proven excellent efficacy results in the elimination of most types of bacteria (gram-positive, gram-negative and multi-resistant), virus and fungus.

### Bacteria

- ASTM E 2149-13a - *Staphylococcus aureus* (ATCC 6538)
- ISO 20743:2013 - *Staphylococcus aureus* (ATCC 6538)
- ASTM E 2149-01 - *Staphylococcus aureus* (ATCC 6538)
- ASTM E 2149-01 - *Klebsiella pneumoniae* (ATCC 4352)
- ASTM E 2149-01 - *Escherichia coli* (ATCC 25922)
- NP EN ISO 20645:2004 - *Staphylococcus aureus* (ATCC 6538)
- NP EN ISO 20645:2004 - *Klebsiella pneumoniae* (ATCC 4532)

### Fungus

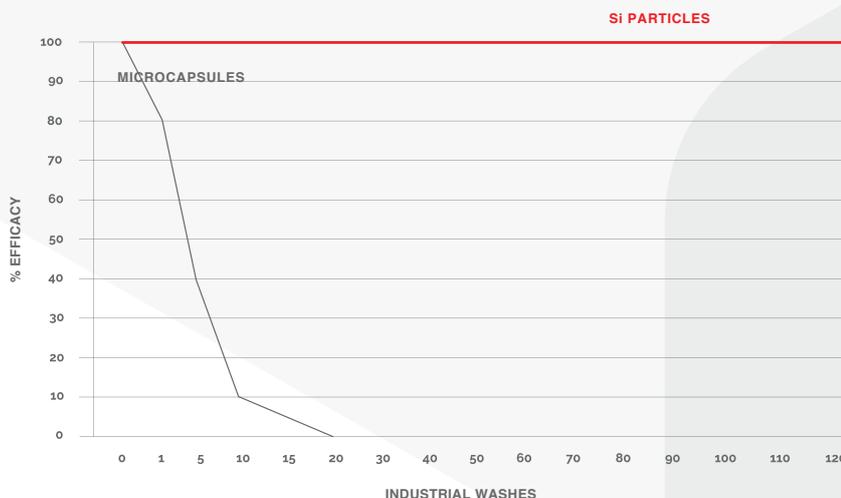
- NP EN 14119:2005 - *Trichophyton mentagrophytes*
- NP EN 14119:2005 - *Trichophyton rubrum* (ATCC 28188)

### Virus

- ISO 18184:2019 - Determination of Anti-viral Activity of Textile Products on coronavirus model (envelope) MVA - Modified Vaccinia Virus Ankara, used for international approval and comparison against SARS-COV-2/Covid-19.

## MICROCAPSULES vs Si PARTICLES

Our patented technology does not use microcapsules. The Si technology consists of a matrix of silica (Si) particles which carry the active ingredient on their surface and fixes it on the substrate, providing high-performance and ultimate washing resistance. Unlike microcapsules, our innovative system is not affected by temperature, friction, UV exposure or other factors.



**100%**  
**ANTIBACTERIAL  
ACTIVITY**  
ISO 20743:2013

**99,98%**  
**ANTIVIRAL  
ACTIVITY**  
ISO 18184:2019

BEYOND 100 WASHES



## WHERE TO APPLY

- Sportswear
- Workwear
- Medical
- Underwear
- Bed linen
- Mattress ticking
- Home textiles
- Socks
- Shoes and insoles



## THE SI HANGTAG

Innovative functions and added-value features must be promoted strongly. Use the Si hangtag to communicate the odor-management antimicrobial protection incorporated in your products! This will help promoting the advantages and characteristics of Si Bac-Pure® to the final customer. We provide 50 hangtags free of charge for every kg of product purchased.

