

# SurfaShield™

a clear  
vision...



...for everlasting  
**anti-microbial &  
self-cleaning**  
surfaces



## NanoPhos SA at a glance...

NanoPhos SA invents clever materials that solve every day problems. By harnessing nanotechnology, we seek to create a cleaner & more hygienic environment! We offer customized solutions that enable our industrial partners craft exciting and differentiated products. Our success depends on the success of our industrial partners.

## SurfaShield™: An Anti-Microbial & Self-Cleaning Surface Shield

SurfaShield™ is a simple coating that makes your surfaces Anti-Microbial, Self-Cleaning, and Stain-Resistant. It is neither a film nor a paint. It is an innovative coating of nanoparticles that absorbs the naturally available surrounding light and is effective in continuously destroying pollutants and microbes that reside on surfaces. SurfaShield™ also occludes the undesirable pores of your surfaces improving their quality.

Imagine your products becoming smarter and able to:

- **Actively attack microbes that dare to lay on them!**
- **Clean themselves and resist stains!**
- **Repel water and humidity!**

## The Need to create a Surfa(ce) Shield... Today more than ever!

With the increased presence of microbial health hazards and other pollutants, the need to work and live in a clean environment is becoming more important than ever. Viral or bacterial infectious diseases such as SARS, the Avian flu (H5N1), *salmonella*, *listeria* and hospital-acquired infections are serious threats to public health. Guess where you can find most of these microbes?

On your favourite tiles, glass, ceramic, enamelled and metal surfaces! Therefore, high hygiene standards are not only required in hospitals but also in common areas such as kitchens, lavatories, nursing schools etc. But how can we permanently protect our surfaces from becoming carriers of such microbes? Can we actually make our common surfaces self-cleaning?





# give your surfaces the chance to become... smarter!

1

## **Does it alter the appearance of my product's surface?**

SurfaShield™ is transparent, chemically inert and perfectly adheres on glass, ceramic, metal or enameled surfaces by chemically anchoring on the existing surface. Our process assures that the final product can not be distinguished from an unmodified product; there are no effects on the mechanical, optical or thermal properties of the underlying surface.

2

## **Has antimicrobial action been proven?**

SurfaShield™'s antimicrobial action has been thoroughly tested and officially certified by an independent accredited European laboratory. Indicatively, 82% of a lethal *listeria monocytogenes* population dose was eliminated within 1 hour! Detailed results are available upon request.

3

## **Is it safe?**

SurfaShield™ is perfectly safe! The ingredients of SurfaShield™ are extensively used in paints, cosmetics, even toothpastes! It is nanotechnology that shapes molecules to become functional for your benefit!

4

## **Does it work permanently?**

SurfaShield™ does not need any maintenance or any other intervention. SurfaShield™ is resistant to chemical attacks (ISO EN 10545-13), stains (ISO EN 10545-14) and abrasion (ISO EN 10545-7).

5

## **How can I place it on my products?**

SurfaShield™ is a water-based liquid that is deposited on existing surfaces by spraying or dip coating. The wet surface is then treated thermally in order to achieve the sintering and chemical anchoring that leads to an everlasting bond and functionality. Heating profiles are compatible with existing manufacturing processes. We are always keen in providing alternative formulations that will address your specific needs and minimize your manufacturing effort.

6

## **Is it cost effective? Can I increase my margins?**

We have developed SurfaShield™ for a wide range of common applications. Therefore our formulations aim to be cost effective and final products to be affordable by a wide range of consumers. We acknowledge your effort to offer more value to your customer. Given that our success depends on your success our mission is to enable you differentiate your products and enjoy increased profit margins.



# Improve the **popularity** and **profitability** of your products - instantly!



## **SurfaShield™ on Floor & Wall Tiles...**

SurfaShield™ is perfectly compatible with any glazed or unglazed tile. Apart from making your tiles anti-microbial and self-cleaning, SurfaShield™ nanoparticles reduce pores. Thus we create a protective shield for your tiles and colorings and minimize freeze threat.



## **SurfaShield™ on Porcelain, Enamels, Sanitaryware & Dinnerware...**

SurfaShield™ can be applied on porcelain and enameled products. Apart from becoming anti-microbial and self-cleaning, SurfaShield™ also makes them easy cleaning; since dirt adheres on microscopic surface anomalies by reducing surface roughness your products remain cleaner.



## **SurfaShield™ on Glass...**

Who would not want their glass surfaces to be self-cleaning and antifogging? The convenience and cost savings are tremendous for end-users while the application of SurfaShield™ in the production process remains very cost effective.



## **SurfaShield™ on Metal...**

From metallic architectural facades, to food preparation surfaces and surgical tools can all benefit from SurfaShield™'s antimicrobial and self-cleaning properties. More importantly, metallic surfaces are protected from corrosion extending their useful life.

Because seeing is believing:  
**send us samples** of your products  
and we will return them  
back to you **smarter!**



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