



# SurfaShield® C

## Active Self-Cleaning Nanotechnology for the Protection of Porous Surfaces

SurfaShield C is a nanotechnology solution that can be easily applied on exterior porous surfaces, such as cement, render or plaster, mortar grout, walls, stones or even unpolished marble. By harnessing the surrounding light, treated surfaces become Self Cleaning and Self Sterilizing. SurfaShield coated surfaces efficiently decompose organic stains, bacteria, mould, gaseous pollutants, even odours. SurfaShield C modified surfaces are safer, without the use of hazardous disinfectants or antibiotics, and are preserved as new.

### Project:

Self-Cleaning and continuous protection of porous building surfaces such as cement, stones, walls and grout

### Industry:

Building & Construction

### Product:

SurfaShield C

### Key Benefits:

- Self Cleaning
- Self Sterilizing
- Superhydrophilic
- Decomposes Odours
- Air purifier
- Continuous Action
- Environmentally friendly cleaning technology



### Applications:

- Self-Cleaning of Walls
- Protection from mould growth and organic stains
- Stone and Monument Protection
- Environmental Restoration
- Decomposes Pollutants
- Bacterial Growth Inhibition
- Exhaust Gas Break-Down

### Packaging:

1L, 4L, 30L Containers, 1000L IBCs

[www.NanoPhos.com](http://www.NanoPhos.com)



SurfaShield C Half-treated cement surface



Blue ink stain is placed on the cement surface



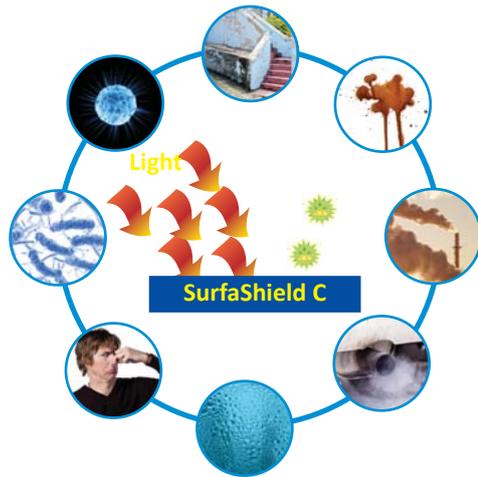
Decomposition of the Blue ink stain, after exposure to sunlight for 5 hours

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## SurfaShield C Description

SurfaShield C is a liquid formulation, developed and produced by NanoPhos SA, that provides effective self cleaning and self sterilizing properties on a wide range of porous building surfaces. It can be applied by roller, brush or spraying. By harnessing nanotechnology achievements, effectiveness, continuous and minimal change to the original natural appearance of the application surface are assured.



How can I prevent mould growth on walls or cement?

Can light inhibit black spotting from microorganisms?

Can stains be decomposed just by absorbing surrounding light?

Is it possible to decontaminate hazardous gaseous pollutants around us?

Can my painted walls purify air?

### How does it work?

SurfaShield C acts by absorbing surrounding light and transforming it in chemical power. As a semiconducting catalyst, SurfaShield C nanoparticles are activated by light to produce short-living oxidizing compounds: oxygen and hydroxyl radicals. Bacteria, Viruses, Mold, Gaseous Pollutants, Odors, Stains; they all decompose and break down to harmless inorganic compounds. Thus the application surfaces remain actively clean. SurfaShield is not just an active Surface Shield: As light interacts with nanoparticles, surfaces become super-hydrophilic and as a result pollutants are washed away. SurfaShield also acts as an air purifier as it decomposes harmful organic substances such as volatile organic compounds (VOC), car exhaust gases and nitrogen oxides (NOx). As a result nanotechnology assures permanently a cleaner and safer environment just by absorbing light.



Hydrophobic  
Uncoated surface



Super Hydrophilic  
SurfaShield coated surface

### Application Note

**Surface Application:** The application surface should be dry and clean. Apply SurfaShield C by using a brush, roller or by spraying. No dilution is required. Avoid excess of application: If droplets or excess remains on the application surface, remove by using a wet cloth. On very absorptive surfaces re-apply within 24h. For maximum protection of very porous surfaces apply SurfaPore C 24h prior to SurfaShield C application to reduce water penetration. **Consumption:** Estimated consumption rate 8-10 m<sup>2</sup>/L, strongly dependant on the properties of the surface applied.

### Physical Properties

Milky White, Water based emulsion with alcohol odour and pH = 9-9,5.  
Flash Point (closed cup method): 45°C  
Density: 1,01 g.cm<sup>-3</sup> Viscosity: 2-5 mPa.s  
SurfaShield C is not considered an oxidant.

### Safety & Storage

Vapours may cause drowsiness and dizziness. Irritating to eyes. VOC Content: 103g/L. Request, read and comprehend the MSDS. **Expiration Date:** Nine months after the production date.

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**Always test on a minor test area  
before application.**

## What is Nanotechnology?

Nanotechnology refers to the scientific field, which deals with very small structures, usually sized below 100 nm. One nanometer (nm) is one billionth of a meter (10<sup>-9</sup> m) - it is so small that if earth were one meter in diameter, then one nanometer would have been the size of an apple! Nano-sized materials reveal unique properties when compared to ordinary, bulk materials or even molecules.

## NanoPhos at a Glance...

At NanoPhos, we take advantage of the unique properties of nanotechnology and invent clever materials that solve every day problems. By harnessing nanotechnology, we seek to create a more comfortable, safe and trouble-free living environment. We transfer innovations out of our lab into the hands of consumers. Our vision is clear: "Tune the nanoworld to serve the macroworld" - in simple terms we make nanoparticles solve common problems. NanoPhos was recognized in January of 2008 by Bill Gates as one of the most innovative companies and also received the 1<sup>st</sup> prize for innovation at the prestigious 100% Detail Show in London. NanoPhos is a rapidly growing company that is actively expanding its distribution network. Currently, the company is present in the UK, Ireland, Norway, Sweden, Finland, Denmark, Portugal, Italy, Greece, Cyprus, Japan, Saudi Arabia, China, Japan, New Zealand, Australia and Mexico.

[www.NanoPhos.com](http://www.NanoPhos.com)



NanoPhos SA has been approved by Lloyd's Register Quality Assurance to follow the EN ISO 9001:2008 Quality Management System for the development, production and sales of chemical products for cleaning and protection of surfaces and nanotechnology products.

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