Project:

Water -and oil- repellency of textiles such as cotton and leather.

Product:

SurfaPore H

Key Benefits:

- Hydrophobicity
- Oleophobicity
- Dirt-protection
- Easy-to-clean treatment
- Easy surface application
- Water based
- Non surface appearance modification
- Long lasting
- User friendly
- Environmental friendly
- Cost effective

Applications:

- Cotton
- Leather
- Fabric
- Natural fibers
- Textiles
- Furniture
- Curtains
- Carpets

Packaging:

1L, 4L, 10L, 30L Containers, 1000L IBCs

SurfaPore® H

Water, oil and dirt protection for textiles

SurfaPore® H is an innovative water-based formulation that can be easily applied on textiles such as cotton and leather without changing their original appearance. It protects and waterproofs furniture, carpets, curtains and surfaces covered with textiles, assuring that water and dirt are effectively repelled by chemical forces. Oily threats, such as food or grease, cannot penetrate and cannot stain the treated surfaces. SurfaPore® H modified surfaces pick up dirt harder, their clean appearance lasts longer and can be easily cleaned.

SurfaPore® H Description

SurfaPore® H is a water-based, liquid formulation which acts as a surface modification agent on oxidic, carboxy- and hydroxyfunctional substrates such as natural fibers like cotton and leather. SurfaPore® H forms a thin layer by chemically bonding to the substrate system while subsequent horizontal crosslinking takes place forming 2- and 3-dimensional networks. Thus the created coating is chemically and mechanically stable preventing water and oil from penetrating. Modified surfaces underlie minimal change to the original natural appearance.

NanoPhos
Pioneering Nanotechnology

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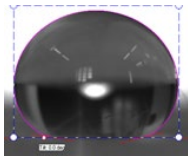
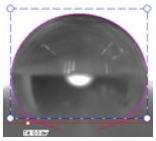
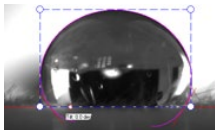
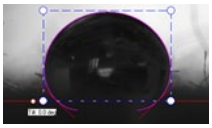
International Standards Testing

Contact angle measurement: Water -and oil- proofing can be quantified with contact angle measurement between liquid and substrate. The contact angle is measured between a 5 μL liquid droplet and the sample's surface (at 0 min and 5 min time after the drop had touched the surface) by using an optical tensiometer. The measurement results are presented on the table below.

 Water droplet on SPH treated papyrus Contact angle $_{0\ min}$=171.10° Contact angle $_{5\ min}$=165.28°	 Water droplet on untreated papyrus. Contact angle $_{0\ min}$=28.67
 Water droplet on SPH treated fabric Contact angle $_{0\ min}$=160.51° Contact angle $_{5\ min}$=152.40°	Water droplet on untreated fabric absorbed at 0 min
 Oil droplet on SPH treated papyrus Contact angle $_{0\ min}$=171.10° Contact angle $_{5\ min}$=165.28°	Oil droplet on untreated papyrus Absorbed at 0 min
 Oil droplet on SPH treated fabric Contact angle $_{0\ min}$=136.78 Contact angle $_{5\ min}$=124.94°	Oil droplet on untreated fabric Absorbed at 0 min

Application Note

Surface Application: The application surface must be clean, degreased and dry. Before application, mix the product thoroughly to homogenize. Apply by using spray, brush or roller. Textiles such as cotton can be dipped for 0.5 to ten minutes. The application on leather can be done by polishing SurfaPore H on to the material. Before full scale application test results in a small area. No dilution is required. On very absorptive surfaces re-apply within 1 hour. Maximum protection is achieved 24 hours post application. **Consumption:** Estimated consumption rate 8-10 m^2/L, strongly dependent on the properties of the surface applied. **Storage:** Should be protected from freezing and temperatures above 40°C. **Expiration Date:** 24 months after production date in the original closed container. **Physical Properties:** Colorless slightly turbid liquid, almost odorless water-based solution, pH = 5.0±0.5. **Safety:** Contains: Mixture of 5-chloro-2-methyl-2H- isothiazol-3-one and 2-methyl-2H-isothiazol-3-one. May produce an allergic reaction. **Keep out of reach of children.**

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^{-9} m) - it is so small that if earth were one meter in diameter, then one nanometer would have been the size of an apple! Nanosized 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 1st 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, Norway, Sweden, Denmark, Portugal, Spain, France, Italy, Greece, Cyprus, Egypt, Sudan, Saudi Arabia, Bahrain, UAE, Qatar, Oman, Iran, India, New Zealand, China, Japan, Mexico, Guatemala, Thailand, Malaysia and Singapore.

NanoPhos SA has been approved by Lloyd's Register Quality Assurance to follow the EN ISO 9001:2000 Quality Management System and the environmental management system EN ISO 14001:2004 for the development, production and sales of chemical products for cleaning and protection of surfaces and nanotechnology products. Furthermore, it is certified for occupational health and safety management systems with OHSAS 18001:2007.