

## Project:

Water- and Oil repellent for porous and absorptive wooden surfaces. Wood preservative and protection against wood-boring insects.

## Product:

SurfaPore W

## Key Benefits:

- Simultaneously protects against oil and water absorption
- Effective against wood-boring insects
- Prevents warping
- Preserves natural wood appearance
- Retains natural breathability
- Non film forming, invisible
- Very effective nano-based formula
- Long lasting
- Easy to apply
- Water based
- Cost effective

## Applications:

- Absorptive wooden surfaces
- Pressure Treatment (diluted)
- Fences/Posts
- Roof Shingles
- Garden Furniture/Sheds
- Deckings & Docks

## Packaging:

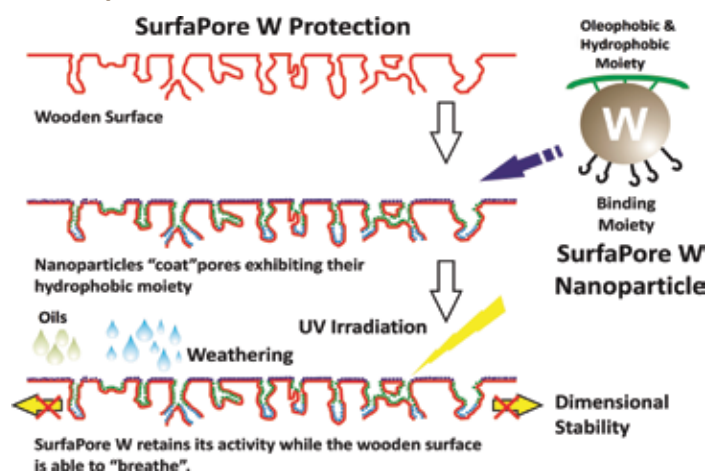
1L, 4L, 30L plastic canisters, 1000L IBC tanks



## SurfaPore W

### Water & Oil Repelling Wood Preservative

SurfaPore W is designed to fit the unique properties of wooden surfaces. A combination of active ingredients simultaneously repel water and oil stains, without changing the natural appearance of the wood. SurfaPore W provides excellent dimensional stability even in the most humid environment. It actively repels water, blocking natural decay and warping. Oily threats, such as food or grease, cannot penetrate and cannot stain the natural looking wood. It does not affect the mechanical properties of wooden surfaces. Its water based formulation makes it easy to apply. Water and oil repellency are combined with active ingredients against wood-boring insects (e.g. termites). Therefore, SurfaPore W is the ideal nano-formulation for preserving natural looking, absorptive wooden materials, offering a triple action: **Water repellence, Oil repellence and insect protection.**



SurfaPore is a registered trademark of NanoPhos SA, PO Box 519, Science & Technology Park of Lavrio Lavrio 19500, Greece

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## SurfaPore W Description

SurfaPore W is a water based formulation, specifically designed to harness the power of nanotechnology in order to preserve absorptive wooden surfaces. By making wood water resistant, it assures dimensional stability and protection against warping and decay. Additionally, it provides oil repellency in order to prevent oily stains from penetrating wood surfaces. SurfaPore W can provide complete protection for decking, fences/posts, facade and roof shingles, garden furniture and sheds, docks or any absorptive wood that needs combined protection and natural appearance.

SurfaPore W has been successfully used as an additive (10% dilution ratio) in pressure-treatment solutions to protect wood. The application of SurfaPore W does not induce any visible change on the surface applied and does not block the pores (no pore sealing like traditional varnishes or wood stains). Thus, the breathing ability of the natural wood surface is preserved.

SurfaPore W contains active ingredients against wood-boring insects. The fact that the active ingredients are encapsulated among water repelling nanoparticles assures minimal leaching. Thus, insect protection lasts longer, as it is not washed away of the wood mass.

## International Standards Testing

**Determination of swelling in thickness after immersion in water (EN 317:1993):** SurfaPore W treated wood exhibited 27% reduction in swelling and 52% reduction in water mass absorption.

**Determination of surface absorption of water:** 88% reduction for the treated wood sample compared to the untreated

**Ageing test (ISO EN 11507 Method A, QUV-B):** 800h SurfaPore W retains its functionality at 60%.



*Water- and Oil repellency on absorptive pine wood*

### Application Note

Applicable on natural, absorptive wooden surfaces. Remove any varnish or wood stain residues before applying SurfaPore W. The application surface should be dry and clean. Shake well before use. SurfaPore W is ready to use; no need to dilute before applying. Apply SurfaPore W by brush, roller or spraying. Maximum performance is reached 24h after application. In case of very absorptive surfaces, reapply within 2 hours. Application temperature: 10-35°C (50-95°F). **Coverage:** 6-8 m<sup>2</sup> per Liter, strongly dependant on the properties of the surface applied. **Wood Stain or Varnish Application:** Let SurfaPore W cure for at least 72h before application. Applying wood varnish or stain on a SurfaPore W treated surface might affect their colour or adherence. Test results on a small area before full scale application. **Volatile Organic Compounds (VOC):** Maximum VOC content of this product is 1 g/L.

### Safety

**Use:** Due to its active ingredient against insects, SurfaPore W should not be applied on apiaries, hives or in beekeeping activities. **Characteristics:** Pale yellow water based emulsion. pH=4.5±0.5, density: 1.00±0.05 g/cm<sup>3</sup> **Safety:** Very toxic to aquatic organisms. May cause produce an allergic reaction. Keep away from food, drink and animal feedingstuffs. Avoid breathing dust / fume / gas / mist / vapours / spray. Use only outdoors or in a well-ventilated area. This material and its container must be disposed of in a safe way. Avoid release to the environment. Collect spillage. Refer to special instructions/safety data sheets. **Expiry date:** 24 months after production date (see packaging) in its original, sealed container. **Contains:** Permethrin 0.093% w/w, Additives 99.900% w/w.



## 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! 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 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, 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.

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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.