



Nano-enhanced Construction Products

A transmission electron micrograph (TEM) showing a cross-section of a cell. The cell contains several dark, oval-shaped organelles, likely mitochondria, distributed throughout its cytoplasm. A scale bar in the bottom right corner indicates a length of 20 nm.

**For millennia the world was just
what we could see or observe.**

Now we can see more, perceive more, utilise more.



Our Ecoline Ag nanoparticles are user- and eco-friendly, while providing unparalleled efficacy and hygiene

Why our Nanoparticles are the perfect fit

Rapid technological developments and a growing demand for high added value products, have dictated an explosive rise of the construction products sector. In this highly competitive industry, where innovation was amongst the traditional advantages of conglomerates, nanotechnology has emerged as “game-changing” technology, providing:

- Advanced finishing options (such as antibacterial protection).
- Environmentally and user friendly alternatives.
- Quality standards accredited by international certified bodies.
- Excellent efficiency at competitive prices.

Addition of Silver nanoparticles into paints

The protective action of Ag NPs can be selectively tuned, thus being ideal for:

- Antimold / Antifungal paint (IMSL Certificate no. 1031937.1A).
- Hygiene paints for hospitals & clinics (IMSL Certificate no. 1031051.1A).
- Kitchens & Food-Industry.
- Eliminating dirt traps (e.g. grooves).
- Sanitizing paints for clean rooms.

Current state of the art of nanotechnology and global market

- Several hundred companies worldwide already use Nano-enhanced products. A few years ago there were only a handful!
- Nano-doped products are on the rise, it is estimated that 15% of the global consumer products already incorporated some type of nanotechnology during 2017.
- Statistics show that consumers are willing to invest in high-tech and efficiency
- Nano is more efficient but not necessarily more expensive.

Application

Depending on the paint composition, our Ecoline Ag solutions are diluted to 6-12ppm (e.g. 6lit of Ecoline Ag @1500ppm are at average required per 1ton of paint).

Ecoline Ag is ideally added during the first step of production and diluted with deionized water.



Our anti-microbial nanomaterials* are easily integrated, ensuring long-lasting efficiency.

Storage and hazards

Store at room temperatures away from sunlight.

No known hazards to humans. In concentrated form, harmful to aquatic life with long lasting effects (Aquatic Chronic 3 - H412).

* Nano-Silver is not considered a biocide, nor classified as such under 528/12/EC

Antibacterial Activity was certified by IMSL in accordance to ISO 22196 : 2011 (Certificate no. 1031051.1A)

Application

Depending on the paint composition, our Ecoline Ag solutions are diluted to 10-15ppm (e.g. 8lit of Ecoline Ag @1500ppm are at average required per 1ton of paint). Ecoline Ag is ideally added during the first step of production and diluted with deionized water.

A further 0.1% (wt) of our surface modified Zinc Pyrithione, is added with the remaining minerals during the second step of production.



Our anti-mold/fungi agents are easily integrated, ensuring long-lasting efficiency.

Storage and hazards

Store at room temperatures away from sunlight.

No known hazards to humans. In concentrated form, harmful to aquatic life with long lasting effects (Aquatic Chronic 3 - H412).

Anti- Mold/Fungal growth was certified by IMSL in accordance to BS3900 (Certificate no. 1031937.1A)

Products we have ready for you

Ecoline: Ag

nanoparticles

Zinc Pyrithione

powder



What we offer next to our products

- Partnership branding.
- Professional application support.
- Comprehensive characterisation services.
- Collaboration with certified laboratories (domestic and international).
- Quality control for nanomaterials providers and customers.
- Commissioned R&D for the development of state of the art nanotech solutions.
- Collaborative research projects to develop and exploit nano-enhanced products.





NANOTECHNOLOGY
FOR EVERYONE

tel. +30 2316 007840

fax. +30 2316 007839

Mail: welcome@plin-nanotechnology.com

Web: www.plin-nanotechnology.com

P.O. box: 60148, 57001 Themi, Thessaloniki, Greece

Spectra Business Center (Gefyra Paspala), 12th km Thessaloniki-Chalkidiki