

INDUSTRIAL APPLICATION OF SILVER NANOPARTICLE BASED ANTIMICROBIAL SURFACES

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Conventional disinfectants and biocides are based on antibiotics, active forms of chlorine, peroxides, mineral or organic acids, aldehydes, alcohols, tertiary ammonium salts or mixtures of thereof. Such solutions have two main disadvantages: short duration of action due to decomposition or evaporation and development of resistance by microorganisms.

After investigation of nanoparticle synthesis routes and their antimicrobial action Smart Nanotechnologies addresses those issues by introducing silver based antimicrobial formulations for different areas of industry. Company's profile, production and analytical equipment will be shortly presented along with SEM images of nanoparticles. The focus will be placed on three nanobased products: Silveco brand – line of silver based disinfectants for agriculture, ventilation equipment disinfection and antimicrobial polymers . Biocidal action against different strains of bacteria and fungi as well as activity duration and silver migration shall be discussed.

We show that nanoparticles are effective biocidal agents, that can be used commercially providing beneficial results unattainable by conventional disinfectants.

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