

## عنوان مقاله:

Antimicrobial Functionalization of Cotton Fabrics Using Nano silver Suspensions for ICNN 2008

## محل انتشار:

دومین کنگره بین المللی علوم و فناوری نانو (سال: 1387)

تعداد صفحات اصل مقاله: 2

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## خلاصه مقاله:

Metals including silver, copper, mercury, and zinc are known for anti-bacterial properties. Bacteria treated by these metals do not acquire resistance to the metals. Therefore, the bactericidal metals have advantages over the conventional antibiotics which often cause the selection of antibiotic-resistant microorganism. Silver is generally a safe and effective antimicrobial metal. Silver or silver ions are known for their powerful antibacterial activity which is generally believed to result from the reaction of this heavy metal with proteins. Silver ions function in adversely affecting cellular metabolism to inhibit bacterial cell growth. When silver ions are absorbed into bacterial cells, silver ions suppress respiration, basal metabolism of the electron transfer system, and transport of substrate in the microbial cell membrane. Silver ions also inhibit bacterial growth by producing active oxygen on the surface of silver powder and silver-plated articles. Silver has been studied for antibacterial purposes in the form of powder, metal-substituted zeolite, metal-plated non-woven fabric, and crosslinked compound [1]. The skin is the interface between the body and the environment which is prone to multiple stress factors. Textiles on the other hand are the tissues with the longest contact to the human skin. They play a critical role especially in skin conditions with an increased rate of bacterial and fungal infections [2]. Antibacterial cloth containing metallic particles is known in the field for a long time. Currently, functional finishes on textile fabrics are of critical importance in improving textile products by imparting them with [multifunctional properties such as being antibacterial, providing UV protection, and being wrinkle-free [3

## کلمات کلیدی:

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