

A NOVEL WAY OF SYNTHESIZING AN ANTIMICROBIAL COATING

This invention defines a method to prepare an antimicrobial, partially quaternized ammonium organosilane composition, whose components, when fully dissolved in water, display self-stabilization and long storage-life.

Potential Applications

This technology is applicable in the industries that may require antimicrobial coatings such as textile; ceramic and polymer industries.

Customer Benefits

- A technique that resolves the instability and short self-life consequences of the end product
- Affords a stable aqueous solution which bypasses any further manipulation or need of potentially costly ingredients
- Elevated temperatures and prolonged reaction times are not required for the production of quaternized product.

Technology Features & Specifications

The technique that is subject to this offer is a cost-effective and technically facile method to prepare a stable aqueous solution containing quaternized ammonium organosilanehydrolysates without resorting to established stabilization strategies.

This is a strategy for the formation of a partially quaternized organosilane composition from a two-component composition of the starting materials; the preparation of a stable aqueous solution comprising of the inert and hydrolysable reconstituted components of said composition; and the thermal curing of said aqueous solution onto surfaces, yielding an antimicrobial coating.

CONTACT:

Iclal Arguc

☎ 0090 216 4839110

☎ 0090 536 6490033

✉ iclal@sabanciuniv.edu

Sabancı
Universitesi

Market Trends and Opportunities

Global Market size of antimicrobial coating agents were around 800 million US Dollars in 2010. This market size is expected to reach more than 2 billion USD in 2015.

Since the material offered by this technology is applicable to almost all types of surfaces, the application areas can range from textile to air conditioner filters. While the patients who have higher hygiene needs can benefit from this technology, the product emerging from this technology can be applied in a variety of places such as home, offices, kindergardens, shopping malls, hotels, public transportations.

This specific technology is highly cost effective as compared to silver, titanium and alcohol based solutions that are already available in the market since less than 1,5% of active material is adequate for an effective antimicrobial solution. Also the shelf life of the offered solution highly favorable with two years or more of a shelf life.

