

A Green Method of Preparation of Silver Nanoparticle from Tea Extract as Antibacterial Agent

TECHNOLOGY DESCRIPTION

This technology utilizes components in tea extract as reducing and capping agent to function as antibacterial property.

TECHNOLOGY FEATURES

The reducing and capping agent produced by this method has an average size of less than 5 nm. The process used for the synthesis of nanoparticles is rapid and stable. This technology has a great potential to be utilized widely in the food packaging industry, water treatment industry and pharmaceutical industry.

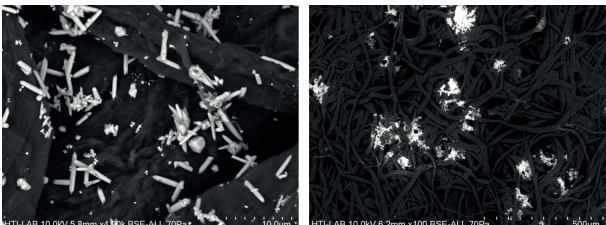
ADVANTAGES

- Green Synthesis Method
- Non-toxic
- Environmental friendly

INDUSTRY OVERVIEW

Prospect Industry: Nanotechnology/Food Manufacturing Industry/Pharmaceutical/Water Treatment Industry

Nanotechnologies are projected to impact at least \$3 trillion across the global economy by 2020, and nanotechnology industries worldwide may require at least 6 million workers to support them by the end of the decade. Nanotechnology may revolutionize the food industry by providing stronger, high-barrier packaging materials, more potent antimicrobial agents, and a host of sensors which can detect trace contaminants, gasses or microbes in packaged foods. Nanotechnology holds great potential in advancing water and wastewater treatment to improve treatment efficiency as well as to augment water supply through safe use of unconventional water sources. According to a new market report published by Persistence Market Research, the global nano enabled packaging market for food and beverages industry was worth USD 6.5 billion in 2013 and is expected to grow at a CAGR of 12.7% during 2014 to 2020, to reach an estimated value of USD 15.0 billion in 2020. The market size of the global fresh food packaging market in terms of value worth USD 95.91 billion by 2020 whereas, the global market produced water treatment market size is estimated to exceed \$8.0 billion by 2019. Among the potential target markets are food manufacturers, water treatment and pharmaceutical industry. The product produced can be distributed directly to these potential manufacturers.



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