

Technology Overview

Title: Synthesis of Rechargeable Biocidal Polymers

Reference:	0718
Summary:	University of South Dakota researchers have developed a method to create polymers which effectively prevent and/or inhibit the growth of infectious micro-organisms. The polymers' antimicrobial properties are fully rechargeable allowing the materials to retain their efficacy over extended periods.
Description:	In response to growing global concern of infectious diseases there is a compelling need for effective antimicrobial materials for use in medical and dental devices, food preparation and storage, water purification, sanitation products, and for related applications. Established strategies for creating antimicrobial materials rely upon the incorporation of agents such as monomeric silver sulfonamides, copper sulfonamides, and zinc sulfonamides within polymers. However, these agents may diffuse and/or leach out which compromises their antimicrobial function over time, and creates toxicity concerns. This technology solves those problems. New polymeric complexes provide potent antimicrobial action against bacteria, fungi, biofilms, and viruses and their antimicrobial properties are rechargeable through retreatment with silver, copper, and/or zinc cations.
Advantage:	The new complexes may be used alone; or added into, coated onto or combined with other materials to impart rechargeable antimicrobial function. Antimicrobial durations are extended. Safety/toxicity concerns are reduced.
Application:	Medical devices, dental devices, food preparation, food storage, water purification and transportation, bioprotective equipment, athletic gear and environments, sanitation
Stage:	Proof of concept is established and testing of variations is underway. The University seeks commercial partners to bring the technology to market.
Patents:	Utility patent pending. Licensed to Antimicrobial Technologies Group, and additional sublicensees are sought.
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