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Preparing the nanoparticles of chitosan to modify hydrolyzed polyester

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Considering the vital role of nanotechnology in various industries, the role of mentioned technology in the textile industry can not be ignored. Finishing textile industry is one of the sectors that are very important to pay attention and to update it. The use of nanotechnology in the textile industry can create new features in textile fibers used in the textile industry, especially polyester fiber have an effective chemical and physical properties and particular importance. One of biocompatible polymers with biodegradability and non-toxicity properties is chitosan. Chitin and chitosan, a natural amino polysaccharides, due to characteristics such as multi-dimensional and high-performance and its much attention in the medical and textile industries in particular have attracted. The surface will be coated with small amounts of the substance. Several other methods for modifying surfaces such as textiles corona, plasma, sol-gel are used before. Facing paper reviews, the preparation of chitosan nano particles to modify the polyester product is hydrolyzed. In this study, after the modified alkaline hydrolysis of polyester, the surface was coated with nano chitosan particle provided by method of chemical hydrolysis with different percentages. To prepare the nano-chitosan, chitosan was hydrolyzed in acidic medium to medium molecular weight and particle size by TEM and SEM confirmed. X-ray diffraction crystalline particles by chitosan was investigated. To investigate the link between chitosan and polyester functional groups of FTIR spectroscopy was distinguished by infrared.

Biography

Neda Najafzadeh has completed her Master's degree in Textile Chemistry and Color Engineering from Islamic Azad University of Imam Khomeini. Her thesis was focused on "Preparing the nanoparticles of chitosan to modify hydrolyzed polyester to dying polyester with reactive dye".

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