

عنوان مقاله:

Applications of Enzymes in Modern Detergent Formulations

محل انتشار:

سومین همایش علوم و فناوری مواد فعال سطحی و صنایع شوینده (سال: 1391)

تعداد صفحات اصل مقاله: 14

نویسندگان:

Mohammad Norouzi - *Young Researchers Club, Science and Research Branch Islami Azad University, Tehran, Iran*

Seyed Majid Ghoreishian - *Department of Textile Engineering, Science and Research Branch, Islami Azad University, Tehran, Iran*

Majid Montazer - *Department of Textile Engineering, Amirkabir University of Technology, Tehran, Iran*

خلاصه مقاله:

As the work becomes more focused on sustainability, ensuring that the cleaning products are safe for people and the environment is becoming increasingly important. Enzymes are biodegradable and non-toxic compounds which can reduce the environmental load of the chemicals used in the conventional detergents. In addition to raising the level of cleaning performance, enzymes have also provided benefits by reducing the energy consumption through reduction in washing times, temperatures, and water consumption. In this article the applications of enzymes such as protease, amylase, lipase, cellulose, mannanase, redox and keratinase in new detergent formulations were reviewed. Mannanase hydrolyses the mannan backbone which is found in common rheology modifiers in a variety of foods and consumer care products. Redox enzymes can be considered either as a new component in bleaching systems at low temperature or dye transfer inhibition agent in washing processes. Keratinase demonstrate dehairing property which makes it suitable in leather industry. New modifications of the enzymes in order to improve their performance and enhance detergent efficiency and their mechanisms of action were discussed.

کلمات کلیدی:

Detergent, Enzyme, Formulation

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