



# Nanoparticles in Active Polymer Food Packaging

*Zlata Hrnjak Murgic*

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## **Nanoparticles in Active Polymer Food Packaging** Zlata Hrnjak Murgic

Active polymer food packaging is packaging which has been designed to deliberately interact with food or with a direct food environment to reduce oxygen and moisture levels, preserve flavourings and the quality of the food. New concepts of active and intelligent packaging play an increasingly important role by offering numerous and innovative solutions for extending the shelf-life or for maintaining, improving or monitoring food quality and safety. This is the driving force for the food packaging industry's development of new and improved packaging concepts using nanoparticles. The main goal of this book was to give an overview of applications for various types of nanoparticles, such as different metal based substances, and to explain their role in polymer food packaging. The objectives of this book were to elaborate in detail the mechanism of activity of each type of nanoparticle, for example: • Antimicrobial activity • Oxygen absorption (scavengers) • Ultraviolet blocking properties • Water vapour permeability The characterisation of polymer nanocomposite materials and the regulatory aspects of nanomaterials are also discussed. The book also provides information about the polymers and polymer nanocomposites, and in addition, provides information about new food packaging materials with improved mechanical, barrier and antimicrobial properties to preserve the food during transport and storage.

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