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Nanocomposite Science and Technology



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Nanocomposite. Nanocomposites can be defined as multicomponent materials comprising multiple different (nongaseous) phase domains in which at least one type of phase domain is a continuous phase and in which at least one of the phases has at least one dimension of the order of nanometers (Chen et al., 2007). From: Wound Healing Biomaterials, 2016. Nanocomposite science generates a flexible platform for designing some new nanomaterials that have different properties and functionalities make it suitable for its newer applications especially in drug targeting area, more specifically in cancer targeting. Moreover, new fabrication technologies will also be devised to recapitulate the cellular microenvironment of native tissues within the nanocomposite HYGs. Nanocomposite is a multiphase solid material where one of the phases has one, two or three dimensions of less than 100 nanometers (nm) or structures having nano-scale repeat distances between the different phases that make up the material. The idea behind Nanocomposite is to use building blocks with dimensions in nanometre range to design and create new materials with unprecedented flexibility and improvement in their physical properties. Nanocomposite; Science and Technology. May 2012. Authors Nanocomposites are produced by the addition of fillers (and other reactants) into polymer melts under mechanical action and high temperature (above the glass transition temperature of the polymer). The viscosity of the polymer -nanoparticles melts can impact this processing method: the addition of nanoparticles can rapidly and strongly increases the viscosity of the melt making the process not possible anymore (Schadler 2004). Moreover due to the tendency of nanoparticles to agglomerate this method leads to random particle dispersion in the polymer matrix (Caseri 2007). Weinheim.:WILEY-VCH Verlag GmbH & Co. KGaA, 2003. - 230 P. This book contains the essence of this emerging technology, the underlying science as well as the motivation behind the design of these structures and the future, particularly from the perspective of applications. Intended as a reference handbook for future scientists, it carries the basic science and the fundamental engineering principles that lead to the fabrication and property evaluation of nanocomposite materials in different areas of materials science and technology. Nanocomposite Science and Technology - Free download as Word Doc (.doc / .docx), PDF File (.pdf), Text File (.txt) or read online for free. Nanocomposite Science and Technology. Report this Document. Description: Nanocomposite Science and Technology. Copyright: © All Rights Reserved. Available Formats. Download as DOCX, PDF, TXT or read online from Scribd. Flag for Inappropriate Content. Download Now. SaveSave Nanocomposite Science and Technology For Later. 0 ratings0% found this document useful (0 votes).