



Nanoclays: Synthesis, Characterization and Applications (Hardback)

By Hasmukh A. Patel

Astral International, India, 2014. Hardback. Book Condition: New. 256 x 134 mm. Language: English . Brand New Book ***** Print on Demand *****. This book demonstrates the beneficiation of Indian bentonites for the synthesis of nanoclays and its application for polymer nanocomposites, rheological modifier, metal nanoparticles support and adsorbent. The book is divided into seven chapters. The first chapter deals with introduction of nanoclays and its applications in various fields with thorough review of the literature. The second chapter discusses the beneficiation of Indian bentonites by sedimentation and chemical treatments. The optimum conditions for the purification of bentonite using this technique are developed. The third chapter illustrates the synthesis of nanoclays by ion exchange reaction of montmorillonite and various quaternary ammonium or phosphonium salts. In the fourth chapter, the detailed studies on the reinforcement effect of nanoclays in polypropylene for the synthesis of polypropylene/nanoclay nanocomposites are elaborated. The fifth chapter consists of the application of the nanoclays as supporting materials for metal nanoparticles. The palladium, rhodium, gold and silver metal nanoparticles anchored on nanoclays are synthesized. The application of nanoclays for removal of organic contaminates in batch and dynamic conditions from wastewater are studied in the sixth chapter. The final chapter summarizes the...



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