1. Record Nr. UNINA9910963194003321

Autore	Mittal Vikas
Titolo	Advances in polymer latex technology / / Vikas Mittal
Pubbl/distr/stampa	New York, : Nova Science Publishers, c2009
ISBN	1-61728-128-X
Edizione	[1st ed.]
Descrizione fisica	1 online resource (307 p.)
Collana	Polymer science and technology series
Disciplina	668.9/2
Soggetti	Polymerization Latex
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Polymers and polymerization -- Kinetics of polymerization -- Emulsion polymerization -- Advances in emulsion homopolymerization by living polymerization methods -- Living and non-living miniemulsion polymerization -- Generation of copolymer or core shell particles by conventional polymerization -- Generation of copolymer or core shell particles by controlled living polymerization -- Characterization of latexes by microscopy -- Latex stabilization, high solids and scale up -- Thermally switchable polymer particles : a special study.
Sommario/riassunto	The polymer latex technology by emulsion polymerization offers significant advantages as compared to bulk and solution polymerization technologies owing to the better control of heat and viscosity of the medium along with the possibility of increasing the molecular weight of the polymer chains without affecting the rate of polymerization. These emulsion polymerization methods have undergone significant advances in the recent years and now a days, synthesis of structured latexes with well defined morphologies and properties has been possible. The development of miniemulsion polymerization has helped to polymerize very hydrophobic and very hydrophilic monomers, which otherwise are difficult to be polymerized with the conventional emulsion polymerization. The combination of controlled living polymerization methods like nitroxide mediated polymerization, atom transfer radical polymerization as well as reversible addition fragmentation chain transfer with the emulsion and

miniemulsion polymerization methods has resulted into the synthesis of functional block copolymer chains, graft copolymer chains and star or multi arm copolymer chains in the polymer particles. Apart from that, specific surface modifications on the surface of the emulsion particles have been achieved which have expended the area of application of such polymer particles. The kinetics and mechanism of particle generation with the living polymerization in emulsion and miniemulsion are very complex, however, the recent advances have helped to understand these systems more clearly, thus, allowing to steer them to the advantage. Therefore, these recent advances in the latex technology need to be brought into a cumulative text in order to provide insight into the various possibilities of achieving the optimum latexes.