

Aqueous Dispersions of High-dispersion Polystyrene

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Abstract

Now the aqueous dispersions of polymers have the relevant scientific and practical value. Usage of aqueous dispersions of polymers allows eliminating applying fire-hazardous and toxic solvents and promotes manufacturing process simplifications to derive different production. Such dispersions can find applying at new material developments for copy machines.

It is possible to receive polymer dispersions including polystyrene, by dissolution of polymer in organic solvent with consequent process of solution pulverization and deriving dry fragments of polymer. Besides polymer dispersions are possible to receive immediately from a solid polymer, passing stage of dissolution. In this connection the polymer blend with the indissoluble in water emulsifier. This mixture is skipped through rolls till thin film forming and then is developed by dispersion solution. In this case process of deriving of polymer dispersion is connected with complication of technologic processes, applied at its production.

It is showed by us, that it is possible to receive high-dispersion polystyrene and also copolymers of styrene and acrylic or methacrylic monomers by monomer polymerization in suspensions. Polystyrene dispersion obtained at it or copolymers of styrene with acrylates can be a base at development and production of toner for copy machines.

Author Biography

Iryna Opaynych received her M.S. in Physical Chemistry from the University of L'viv in 1965 and her Ph.D. in Chemistry from the University of L'viv in 1983. Dr. Opaynych is current an associate professor of chemistry at the chemical faculty of the L'viv University. She has published over one hundred papers, including inventions, one of inventions has been patented in USA, France, UK, Japan and others countries. Iryna Opaynych works in the area of polymeric composite materials chemistry.