

Poster 1

Synthesis of Poly(2-hydroxypropyl methacrylate) Latex Particles via Aqueous Dispersion Polymerization

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Poly(2-hydroxypropyl methacrylate) latexes were prepared by aqueous dispersion polymerization at 60°C using poly(*N*-vinylpyrrolidone) as a steric stabilizer. The mean latex diameter can be controlled over a wide range by varying the synthesis parameters (initiator type, stabilizer concentration, addition of co-surfactant or comonomer) and narrow size distributions were obtained in most cases. These sterically-stabilized latex particles were characterized by electron microscopy, disk centrifuge photosedimentometry, dynamic light scattering and FT-IR spectroscopy. The stabilizer content was assessed by a depletion method using visible absorption spectrophotometry and the presence of the poly(*N*-vinyl pyrrolidone) stabilizer at the surface of the latex particles was confirmed by x-ray photoelectron spectroscopy. The degree of swelling of these lightly cross-linked latex particles in d4-methanol and d5-pyridine were investigated by dynamic light scattering and ¹H NMR spectroscopy.

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