

Formation of Biodegradable Polymer Particles Using Supercritical Antisolvent

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The aerosol solvent extraction system (ASES) is a method based on solvent extraction using supercritical fluid for the preparation of fine particles. We prepared biodegradable polymer particles by ASES. Used polymers are poly (L-lactic acid), poly vinyl pyrrolidone and poly (N-vinyl-2-pyrrolidone-co-2-methylene-1,3-dioxepane). The mean particle sizes depended on pressure, temperature, solution flow rate and CO₂ flow rate.

We calculated the initial droplet size and investigated the relation between the initial droplet size and particle diameter at constant temperature and pressure. The results show that there is the close linear relationship between the calculated initial drop size and the mean particle size.