

Comprehensive Understanding of Supercritical Anti-Solvent System by Comparison PLLA, PS and PCL

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The ASES (Aerosol Solvent Extraction System) process, which is one of the SAS (Supercritical Anti Solvent) processes, to produce the Polystyrene(PS), Poly(L-lactic) acid (PLLA) and Polycaprolactone(PCL) into the submicron particles has been studied. Dichloromethane (DCM, CH₂Cl₂) and carbon dioxide were selected as a solvent and as an anti solvent for materials, respectively. The effect of the process parameters such as temperature, pressure was investigated. SEM (scanning electron microscope) was used to observe the morphology and size of particles recrystallized by ASES process. The mean particle size and its distribution of processed particles were measured by using a laser diffraction particle size analyzer (PSA). With increasing temperature and pressure, the particle size increased.