

Formation of Fine Clarithromycin drug particles Using Supercritical Anti-Solvent Process

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The aim of this research is to make clear of influences on particle size in ASES (Aerosol Solvent Extraction System) process using Clarithromycin drug for obtaining fine drug particles. Especially, process is carried out in different states of antisolvent such as liquid (5~30°C, 70bar) and supercritical (30~60°C, 100bar) anti solvent. And interfacial tension is measured for quantitative analysis about influences on particle size. Using this result, particle size can be predicted. In liquid antisolvent, particle size gets bigger by Weber number effect. However, the trend is opposite in supercritical antisolvent condition by rapid Mass transfer taking place to rapid Supersaturation. After process, it is confirm that crystallinity and melting point decreased using XRD and DSC analysis.

Particle size distribution is measure by PSA. Crystallinity decreased in XRD analysis result and melting point is decreased after ASES process in DSC result.