Preparation of Arbutin Microparticles by Using the SAS Process

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In this work, micro-sized arbutin particles, which is well known to be an effective material for skin lightening agent, were prepared by means of the Supercritical Antisolvent(SAS) process with CO_2. With ethanol as the solvent, effects of the operating variables such as temperature (308.15~323.15 K), pressure(90~130 bar), solute concentration(0.5wt%), and the injection velocity of the solution(2~12ml/min) on the size and morphology of the resulting particles were thoroughly observed. In the micronization of arbutin microparticles process, effects of the operating variables on the size and shape of the resulting particles were observed. Depending on the operating temperature, arbutin particles were produced in aciculate or spherical shapes. The size of a particle showed the difference of the minute size according to a pressure and injection velocity of the solution variation. The diameter of the spherical type particles and the breadth of the aciculate type particles were roughly a several micrometer units.