

Recrystallization of metformin particles using supercritical crystallization process

조항규, 임종성†
서강대학교
(limjs@sogang.ac.kr†)

In this study, the metformin particles were recrystallized by using the aerosol solvent extraction system(ASES) process. Supercritical carbon dioxide, which is known to be a green solvent, was adopted as an anti-solvent.

Metformin, marketed under the tradename Glucophage among others, is an antidiabetic medication which is taken by mouth. It is the first-line drug of choice for the treatment of type 2 diabetes, in particular, in overweight and obese people and those with normal kidney function.

The effects of process parameters such as temperature, pressure, solution concentration, and solution injection rate on particle size and its distribution were investigated.

As a result, particle size decreased when the system temperature decreased and the system pressure increased. higher concentration of metformin in the solution and increasing the solution injection rate also increased particle size.