

Transesterification of soybean oil using supercritical methanol process with heterogeneous catalysts

안승환, 류재훈, 신희용, 배성열*
한양대학교

(bae5272@hanyang.ac.kr*)

The common method to prepare biodiesel uses homogeneous base catalysts such as sodium or potassium hydroxide. And the removal of these catalysts from products is technically difficult and a large amount of waste water is produced. In order to solve these problems, supercritical methanol process have been proposed and studied. However, supercritical method has some drawbacks related to its high reaction temperature and pressure, and the resulting problems are as follows : high production cost, difficulty of scale-up, etc. In this study, transesterification of soybean oil using supercritical methanol was performed in the presence of various heterogeneous catalysts to mitigate the severe operation condition of supercritical process. The catalytic activity of the catalysts was evaluated and compared each other.