

The Role of Calcium added to Ni-based Hydrotalcite Catalyst for LPG Steam Reforming

김대현, 이병권, 최재석¹, 김명준¹, 홍석인², 문동주*
한국과학기술연구원; ¹SK에너지; ²고려대학교
(djmoon@kist.re.kr*)

Steam reforming of LPG over Ni/MgCaAl catalysts were carried out in a temperature range of 700°C, at atmospheric pressure with space velocity of 20,000 h⁻¹ and feed molar ratio of H₂O/C = 1.0. The catalysts were prepared by a co-precipitation. The Ni/MgCaAl catalyst showed higher resistance for the sintering of active metal than Ni-based hydrotalcite catalyst prepared by conventional method. It was found that Ni/MgCaAl catalyst showed high inhibition to the formation of carbon compared to Ni-based catalysts and maintained the activity at 700°C for 50 h. The results suggest that the Ni/MgCaAl catalyst can be applied for the steam reforming of LPG.