

Catalytic degradation of an LDPE-LLDPE-EVA copolymer mixture with used-HZSM-5
and
Ga/HZSM-5 catalysts

전종기*, 김현진, 김민지, 박영권¹
공주대학교; ¹서울시립대학교
(jkjeon@kongju.ac.kr*)

The present work is aimed at studying the performance of used-HZSM-5 catalyst and Ga/HZSM-5 in the catalytic cracking of an LDPE-LLDPE-EVA copolymer mixture, with a composition similar to that found in real agricultural film wastes. The crystallinity, amount of acid site and surface area of a used-HZSM-5 decreased a little than those of a fresh HZSM-5, but the catalytic performance of a used-HZSM-5 could be achieved in pyrolysis of polymer mixture. The selectivity to isobutene over used-HZSM-5 was much higher than that of thermal degradation. When pyrolysis vapor was upgraded with HZSM-5 or Ga/HZSM-5, the amount of aromatics in product increased. Product yields over Ga/HZSM-5 shows higher amount of aromatic components such as benzene, toluene, xylene(BTX) than HZSM-5.