

DEPOLYMERIZATION OF POLYCARBONATE IN SUB-CRITICAL ETHANOL WITH SODIUM HYDROXIDE

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Catalytic depolymerization of polycarbonate (PC) in sub-critical ethanol was carried out in a batch reactor at pressure 1.1 to 5.9 MPa and temperatures 140 to 220°C for 15 to 60 min. FT-IR, GC-MS and GC were used to analyze the products, and the depolymerization ratio of PC and the yield of bisphenol A (BPA) were estimated. The results showed that the depolymerization ratio of PC went up with the increase of temperature and reaction time, while the yield of BPA decreased because of its decomposition at elevated temperatures and long reaction time.

Key Words : sub-critical ethanol; polycarbonate; sodium hydroxide; catalytic depolymerization