

Effect of nitrogen on the flame retardancy of nitrogen-phosphorus flame retardant

최소원, 심민지, 이하영, 차상호[†]

경기대학교 화학공학과

(sanghocha@kyonggi.ac.kr[†])

To compare the application of the nitrogen-phosphorus flame retardant and the phosphorus flame retardant in the rigid polyurethane foams(PUFs), flame retardants were synthesized via the condensation reaction of phenylphosphonic dichloride(PPDC) with 1,4-diaminobutane or 1,4-butanediol. Their chemical structures were characterized with a proton nuclear magnetic resonance(¹H NMR). The flame-retarding abilities and thermal stabilities of two flame retardants in the PUFs will be compared by the limiting oxygen index(LOI) and the thermogravimetric analysis(TGA). The detailed results will be presented in conference.