

PC/PMMA/MWCNT Hybrid Films and Their Phase Behavior

배도영^{1,2}, 전상일¹, 오석빈², 최승렬², 유승찬², 이현상^{1,*}

¹동아대학교; ²삼양사 중앙연구소

(heonlee@dau.ac.kr*)

The blends of polycarbonate (PC) and poly(methyl methacrylate) (PMMA) are well known to be miscible around room temperature and be partially miscible at the temperature higher than a critical point. This behavior is well known as a lower critical solution temperature (LCST) behavior. We prepared transparent PC-PMMA films by solution casting method. We employed Flory-Huggins theory to calculate binodal- and spinodal phase separation curves. The cloud points are well consistent with the spinodal phase separation curve calculated by F-H theory. We demonstrated the phase behavior of PC-PMMA blends are changed by adding small amount of multiwall carbon nanotubes into the blends. Model calculations are also performed to analyze the change of phase behavior.