

### Preparation of electrospun porous polystyrene fiber by MC/Acetone solvent ratio

박주영, 유창훈, 김미진, 이인화\*  
조선대학교 환경공학과 BK21 바이오가스기반 수소생산  
전문인력양성사업팀  
(ihlee@chosun.ac.kr\*)

The solvent composition ratios of methylene chloride/acetone in polystyrene(PS) solution were proved to be key parameter to affect the fiber surface structure due the various phase separation speeds of the solvents form PS fiber during electrospinning. The concentration of the PS solution is used in the range 10 to 15wt%, and the solvent mixing ratio of methylene chloride/acetone is changed from 90:10 to 40:60. All electrospinning condition was performed by flow rate 100 $\mu$ l/min, applied voltage 15kV and tip-to-distance(TCD) 10cm. The polystyrene nanofibers were characterized by field emissions scanning electron microscopy (FE-SEM) and Brunauer-Emmett-Teller(BET). The results obtained polystyrene nanofiber having porous surface. Average pore diameter and surface area were about 4.5nm and 63.06 m<sup>2</sup>/g.