

액상수은 제어를 위한 다공성 탄소입자 제조에 관한 연구

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Synthesis of Porous Carbon Particles for the Absorption of Mercury

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Abstract : The carbon nano-structured materials could be applied to the fields of advanced fillers, templates, electrode materials, sensor, storage, and absorption materials. The polyacrylonitrile (PAN) based carbon nano-particles provide the remarkable properties of high specific surface area, large pore volume, chemical inertness, and good mechanical stability. In this study, well-defined carbon nano-particles were obtained through pyrolysis of polyacrylonitrile based particles. The precursor nano-particles were prepared by modified aqueous dispersion polymerization using hydrophilic poly(vinyl alcohol) in a water/ N,N-dimethylformamide mixture media. Synthesized precursor nanoparticles have relatively monodisperse particles ranging 80 ~ 250nm. Stable spherical particles are obtained without coagulum or secondary particles in our system. The characteristic of the carbon nanoparticles were investigated in terms of surface area, morphology, and size distribution.

Key words : Carbon particle(탄소입자), liquid mercury(액상수은), Dispersion polymerization(분산중합)

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