Aerosol-Spray Pyrolysis toward the Synthesis of Nanostructured Materials for Rechargeable Batteries

박승근†
공주대학교
(skpark09@kongju.ac.kr†)

There is an increasing demand for development of rechargeable batteries with higher energy density, longer cycle life, and lower cost. To satisfy the needs, it is necessary to develop advanced electrode materials with optimized size, composition and structures. Nanostructured electrode materials can store more energy and be quickly charged and discharged owing to their size and structural effects. However, the nanostructured materials can not be easily scale to practical electrodes due to their low production yield and complex synthetic process. Therefore, new approaches to synthesize the nanomaterials should be developed.
In this presentation, we introduce the aerosol-spray pyrolysis process toward the preparation of nanostructured materials for rechargeable batteries. This process allows the synthesis of unique structured nanomaterials by controlling various parameters. The obtained materials exhibited high specific capacity, excellent cycling stability and rate capability when applied as electrode materials for various rechargeable batteries.