

Aerosol approach for synthesis of barium ferrite particles with various sizes

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Ultrasonic spray pyrolysis to synthesize various metal and ceramic powders is an attractive process because of rapidity, facile scalability, low-cost and continuity of process. It enables flexible adjustment of particle size by simple change of concentration of precursor without complicated stage, in the range of a few nanometers to a few microns. To produce much smaller particles, some advanced methods such as organic-assisted, salt-assisted and low pressure spray pyrolysis have been suggested.

In this presentation, we report preparation of size-controlled barium ferrite via aqueous and organic-assisted spray pyrolysis. Particle sizes were varied from approximately 100 nm to 2 μm and their magnetic properties were also investigated. Possibility of application of this particle is also briefly discussed.