

# Synthesis Technique of the Powder by Aerosol Process



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The ceramic society of japan  
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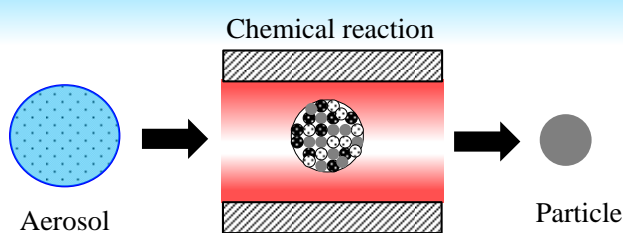
**Keywords** Synthesis process, Powder, Particles, Inorganic materials, Spray pyrolysis

**Technical Support Skills**

- Synthesis of the powder
- Production technique of the powder
- Development and characterization of the materials for the secondary battery

## Research Contents

1. Study of synthesis process with the energy-saving technique and mass production technique for the powder.
2. Study of the microstructure and particle size control for the materials in energy and medical field.



The aerosol which was generated from aqueous solution was pyrolyzed to form oxide or metal particle.

Fig. 1 Schematic of aerosol process

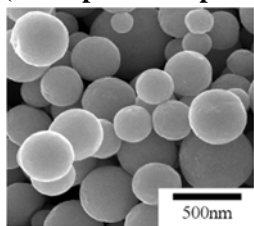
### Features of process

- Economical process (Low cost, saving energy)
- Simple and continuous process
- High speed production (within one minute)

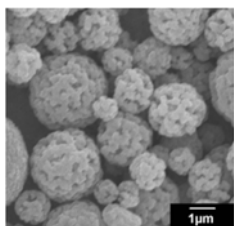
### Features of particles

- Spherical particles
- Size control from micrometer to nanometer
- High dispersibility
- Homogeneous composition
- High purity

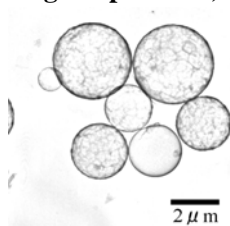
## (Example of the particles and the materials using the particles)



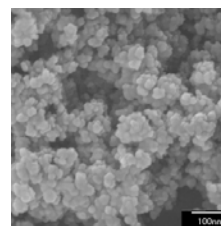
- Chemical products
- Battery materials
- Electronic materials



- Battery materials
- Adsorption materials
- Catalyst material

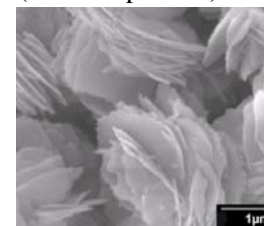


- Thermal insulating materials
- Electronic materials



- Nano-materials in each field

## (Another process)



- Cosmetics

Fig. 2 SEM images of the particles prepared by aerosol process

## Available Facilities and Equipment

Spray pyrolysis apparatus	