

## Synthesis of $\text{LiFePO}_4$ powder as a cathode material for Li-ion batteries by spray pyrolysis

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$\text{LiFePO}_4$  particles as a cathode material for lithium ion batteries were prepared by the conventional spray pyrolysis. Because they were very sensitive to the reductive atmosphere,  $\text{H}_2$  5%/Ar 95% mixed gas was used as a carrier gas for both spray pyrolysis and post treatment. The reaction temperature was varied between 400 to 800°C and prepared particles were post treated at 750°C for 4 hours with the flow rate of 0.4 L/min to get  $\text{LiFePO}_4$  single phase. The morphology and crystallinity of the prepared particles were characterized by scanning electron microscope (SEM) and X-ray diffraction analysis.

Doped lithium iron phosphate was prepared to improve their intrinsic low conductivity by the same method above and its conductivity at room temperature was characterized by 4-point probe method.