

## Study of Divalent Phosphate Iron-Oxide Precursor Recycling Technology

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**Abstract :** This study aims to synthesize lithium iron phosphate cathode material using a recycling technology involving non-protective gas calcination. The advantages include lower cost and easier production than traditional methods that require a large amount of protective gas. The novel technology may have extensive industrial applications. Given that the traditional gas calcination has a large number of protection free Fe<sup>3+</sup> production, this study developed a precursor iron phosphate (Fe<sup>2+</sup>) material recycling technology and conducted related tests and analyses. It focused on flow field design of calcination and new technology as well as analyzed the best conditions for powder calcination combination. The electrical properties were determined by button batteries and exhibited a capacity of 118 mAh/g (The use of new materials synthesis, capacitance is about 122 mAh/g). The cost reduced to 50% of the original.

**Keywords :** lithium battery, lithium iron phosphate, calcined technology, recycling technology

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