

Accepted Manuscript

Synthesis, morphological analysis and electrochemical performance of iron hydroxyl phosphate as a cathode material for lithium ion batteries

S.M. Zhang, J.X. Zhang, S.J. Xu, X.J. Yuan, T. Tan



PII: S0378-7753(13)00952-X

DOI: [10.1016/j.jpowsour.2013.05.154](https://doi.org/10.1016/j.jpowsour.2013.05.154)

Reference: POWER 17482

To appear in: *Journal of Power Sources*

Received Date: 6 March 2013

Revised Date: 13 May 2013

Accepted Date: 30 May 2013

Please cite this article as: S.M. Zhang, J.X. Zhang, S.J. Xu, X.J. Yuan, T. Tan, Synthesis, morphological analysis and electrochemical performance of iron hydroxyl phosphate as a cathode material for lithium ion batteries, *Journal of Power Sources* (2013), doi: 10.1016/j.jpowsour.2013.05.154.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Highlights

- A new Iron hydroxyl phosphate cathode materials with a formula of $\text{Fe}_{1.5}(\text{PO}_4)(\text{OH})$ was synthesized by a simple hydrothermal method.
- We obtained the spherical, cubic, multi-armed and cross-like morphology by adjusting the hydrothermal temperatures.
- Iron hydroxyl phosphate exhibited a reversible initial discharge specific capacities of 176mAh/g.
- The specific capacity retained about 95% of the initial discharge specific capacity after 60 cycles at 0.1C.
- The spherical morphology and smaller particle size can improve the electrochemical performances.

Download English Version:

<https://daneshyari.com/en/article/7740411>

Download Persian Version:

<https://daneshyari.com/article/7740411>

[Daneshyari.com](https://daneshyari.com)