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## LiBOB合成及其在锰酸锂高温型电解液中的应用

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### Synthesis of LiBOB and Its Application in the System of Electrolyte of LiMn<sub>2</sub>O<sub>4</sub> at Elevated Temperature

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**摘要** 为提高锰酸锂的高温循环性能,以草酸、硼酸、氢氧化锂为原料,用固相法合成锂盐LiBOB;并利用X射线衍射(XRD)、扫描电子显微镜(SEM)、傅立叶变换红外光谱仪(FIR)、热重-差热分析(TG-DTA)对锂盐结构、形貌及热稳定性进行表征和测试;研究了LiBOB/EC+PC+EMC体系对锰酸锂高温循环性能的影响.实验结果表明, LiBOB具有良好的结晶性和热稳定性,1 C倍率下锰酸锂电池高温循环200次后,容量保持率为97.15%.

**关键词:** LiBOB 锰酸锂 电解液 循环性能

**Abstract:** In order to improve the cycling performance of LiMn<sub>2</sub>O<sub>4</sub> at elevated temperature, LiBOB was synthesized with solid state method using oxalic acid, boric acid and lithium hydroxide as raw materials, and the structure, morphology and thermal stability of lithium salt were characterized and measured by XRD, SEM, FTIR and TG-DTA, respectively. Meanwhile, effect of LiBOB/EC+PC+EMC on the cycling performance of LiMn<sub>2</sub>O<sub>4</sub> at elevated temperature was studied, and the results show that LiBOB has good crystallinity and thermostability, after 200 cycles, the LiMn<sub>2</sub>O<sub>4</sub>/Li cell retained 97.15% of its initial discharge capacity at 1 C-rate after cycled at elevated temperature.

**Key words:** LiBOB LiMn<sub>2</sub>O<sub>4</sub> electrolyte cycling performance

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