

技术交流

## 有机溶剂对锂离子电池性能的影响

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**摘要:** 选用恒流充放电法测试了 EC、DEC、DMC 和 EMC 等有机溶剂体系对锂离子电池的容量保持率、平台保持率、充放电循环性能和温度特性的影响。实验结果表明: 二乙基碳酸酯(DMC)不但具有较高的平台保持率, 而且有利于电池的大电流充放电; 二甲基碳酸酯(DEC)对电池的循环寿命有较大的改善作用; 乙基甲基碳酸酯(EMC)具有较好的温度特性。

**关键词:** 有机溶剂; 温度特性; 锂离子电池

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## Effects of organic solvents on performance of Li-ion battery

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**Abstract:** The influences of organic solvents ethylene carbonate (EC), diethyl carbonate(DEC), dimethyl carbonate(DMC) and ethyl methyl carbonate(EMC) in various combination on the capacity holding rate, plateau holding rate, charge-discharge performance and temperature properties of Li-ion batteries were investigated by galvanostatic charge-discharge. The experimental results indicated that DMC had higher plateau holding rate, in favor of charging-discharging properties at higher current density. DEC could improve cycle life of Li-ion battery and EMC had better temperature properties.

**Key words:** organic solvents; temperature properties; Li-ion battery