

### 论文摘要

中国有色金属学报

ZHONGGUO YOUSEJINSHUXUEBAO XUEBAO

第17卷 第11期 (总第104期) 2007年11月

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文章编号: 1004-0609(2007)11-1876-05

### 酞菁催化剂对镍氢电池性能的影响

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**摘 要:** 研究2种酞菁类催化剂——酞菁钴、酞菁铁作为负极添加剂对Ni-MH电池充放电、电池内压及循环性能的影响。结果表明: 在负极材料中加入酞菁钴、酞菁铁能够显著提高电池充放电性能, 1C充电至额定容量时, 电池最高电压分别较对比电池降低25 mV和31 mV; 5C放电时, 中值电压分别较对比电池高45 mV和51 mV。电池的循环性能得到改善, 0.5C循环150次时, 分别剩余额定容量的75%和83%; 电池安全性得到提高, 电池内压显著降低。

**关键字:** Ni-MH电池; 电化学催化剂; 内压

### Effect of additive CoPc and FePc on properties of Ni-MH battery

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**Abstract:** Abstract: FePc and CoPc were used as cathode additives of Ni-MH battery respectively, and the effects of FePc and CoPc on charge-discharge performance, inner pressure, and cycling performance of Ni-MH battery were studied. The results show that the overcharge resistance of Ni-MH battery increases clearly by adding suitable amount of FePc and CoPc under the condition that the battery capacity isn't affected. The peaks of voltage of the batteries decrease by 25 mV and 31 mV respectively when charged at 1C; and the set-point voltage increases by 45 mV and 51 mV when discharged at 5C. Cycle performance is improved obviously, and the capacity remains more than 75% and 83% after 150 charge-discharge cycles at 0.5C. Battery inner pressure decreases obviously when overcharged.

**Key words:** Ni-MH battery; electrocatalyst; inner pressure

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