第34卷 第1期 电 池 Vol.34, No.1
2004年 2月 BATTERY BIMONTHLY Feb., 2004

包埋镍酸锂的热稳定性和耐过充性

万新华，王 博，连 芳，刘庆国

（北京科技大学固体电解质研究室，北京 100083）

摘要：锂离子电池在受热、过充条件下容易引起安全性问题，使其应用于电动汽车、混合动力汽车的动力电源受到限制。用锂钴氧包埋镍酸锂作为正极材料，组装 AA 型锂离子电池，对其热稳定性、过充性和钴酸锂 AA 电池进行了对比研究。实验结果表明：包埋镍酸锂作为锂离子电池正极材料，其热稳定性能和钴酸锂基本相当，过充性能远远优于钴酸锂。包埋镍酸锂正极材料提高了锂离子电池的安全性。

关键词：锂离子电池；正极材料；包埋镍酸锂；热稳定性；过充性

中图分类号：TM912.9 文献标识码：A 文章编号：1001-1579(2004)01-0007-03

Thermal stability and overcharge performance of the coated $LiNiO_2$

WAN Xin-hua，WANG Bo，LIAN Fang，LIU Qing-guo

（Laboratory of Solid State Ionics，University of Science and Technology Beijing，Beijing 100083，China）

Abstract：The use of the Li-ion batteries in the field of large power sources，such as EV，HEV had been limited due to safety concerns associated with the heating and overcharging. Thermal stability and the overcharge performance of the AA size batteries assembled using $LiCoO_2$-coated $LiNiO_2$ as cathode materials in comparing with the $LiCoO_2$-based AA-type batteries were studied. The results showed that the thermal stability of coated $LiNiO_2$ was basically similar to that of $LiCoO_2$，meanwhile，coated $LiNiO_2$ presented better performance than $LiCoO_2$ in overcharging. The safety of Li-ion batteries using coated $LiNiO_2$ as positive electrode materials was improved.

Key words：Li-ion battery；cathode materials；coated $LiNiO_2$；thermal stability；overcharge performance