•科研论文•

包埋镍酸锂高温循环性能研究

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摘要：用 $LiCoO_2$ 包埋镍酸锂作为锂离子电池正极材料，组装成 AA 型电池，在 4.20~2.75 V 和充放电电流为 1 *C* 的条件下，对其 55 ℃、25 ℃循环性能与钴酸锂 AA 型电池 55 ℃循环性能进行了对比研究。在 55 ℃下循环 50 次后，包埋镍酸锂的放电比容量仍在 161 mAh/g 左右，容量保持率高达 91%以上，XRD 测试表明：材料仍保持原始结构。

关键词：锂离子电池；正极材料；包埋镍酸锂；高温循环性能

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Cyclic performance of the coated $LiNiO_2$ at elevated temperature

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Abstract: Cyclic performance of AA size Li-ion batteries assembled using coated $LiNiO_2$ as cathode materials had been studied between 4.20 V and 2.75 V with 1 *C* rate at 55 ℃, and compared with the batteries cycled at 25 ℃ and the batteries using $LiCoO_2$ cycled at 55 ℃ under the same conditions Coated $LiNiO_2$ presented approximately 161 mAh/g of specific discharge capacity and the capacity retention was over 91% after 50 cycles at 55 ℃, XRD tests showed the material still maintained its original structure.

Key words: Li-ion batteries；cathode materials；coated $LiNiO_2$；cyclic performance at elevated temperature