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纳米 β-$Ni(OH)_2$ 复合 LiOH 和 $Co(OH)_2$ 的电化学性能

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摘要：一定温度下，用 $NiC_2O_4\ 2H_2O$ 和 NaOH 进行固相反应，制备出纳米级 β-$Ni(OH)_2$ 粉末。样品按一定比例掺杂 LiOH 和 $Co(OH)_2$ 制备复合电极，讨论 LiOH 和 $Co(OH)_2$ 含量对掺杂复合电极电化学性能的影响。结果表明：β-$Ni(OH)_2$ 纳米粉体加入含量 10%的 LiOH、10%的 $Co(OH)_2$ 和 5%的镍粉、5%的乙炔黑，并以泡沫镍为集流体在 6MPa 压力下压制出镍正极材料，其结构稳定。电极以 380mA/g 电流充电，76mA/g 放电，终止电压为 0.6V 时，比容量达 280mAh/g，放电电位平稳，活性明显增强。

关键词：纳米 β-$Ni(OH)_2$；　LiOH；　$Co(OH)_2$；　电化学性能

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Electrochemical performance of nano β-$Ni(OH)_2$ compound with LiOH and $Co(OH)_2$

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Abstract: $NiC_2O_4{\cdot}2H_2O$ was used to react with NaOH in the solid reaction to get nano β-$Ni(OH)_2$. Certain content of $Co(OH)_2$ and LiOH were added to manufacture adulterated electrodes. The effects of the adulterating content of $Co(OH)_2$ and LiOH on the electrochemical performance were discussed. The results showed that the best press to manufacture adulterated electrode was 6MPa and the content of $Co(OH)_2$ and LiOH was 10%,nickel powder was 5% and acetylene black 5% when the charging current was 380mA/g，the discharging current was 76mA/g，and the end potential was 0.6V，the specific capacity was 280mAh/g，the discharge potential was smooth and the activity was obviously enhanced.

Key words: nano β-$Ni(OH)_2$；　LiOH；　$Co(OH)_2$；　electrochemical performance