

## Study on the Electrochemical Performance of Graphene Effect on Cadmium Oxide in Lithium Battery

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**Abstract :** Graphene and CdO with different stoichiometric ratios of Cd(CH<sub>3</sub>COO)<sub>2</sub> and graphene samples were prepared by hydrothermal reaction. The crystalline phases of pure CdO and 3CdO:1graphene were identified by X-ray diffraction (XRD). The particle morphology was studied with SEM. Furthermore, impedance measurements were applied. Galvanostatic measurements for the cells were carried out using potential limits between 0.01 and 3 V vs. Li/Li<sup>+</sup>. The current cycling intensity was 10<sup>-4</sup> A. The specific discharge capacity of 3CdO-1G cell was about 450 Ah.Kg<sup>-1</sup>; up to more than 100 cycles.

**Keywords :** CdO, graphene, negative electrode, lithium battery

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