

Al₂O₃로 코팅된 LiCoO₂ 입자로 제조된 리튬 이온 전지의 특성에 대한 연구
 Effect of Al₂O₃ coating on the surface of LiCoO₂ for the cathode of lithium ion battery

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The Commercial LiCoO₂ particles, which were 7.7μm in average diameter, were coated with Al₂O₃ by a gas suspension spray coating method. The coating amount of Al₂O₃ on the surface of LiCoO₂ was varied from 0.1 to 2 wt.% and compared their electrochemical characteristics with those of bare LiCoO₂. Al₂O₃ coating on the surface of LiCoO₂ increased surface area and electrical conductivity, and showed the better cycle and thermal stability even at the higher voltage. The observed optimum Al₂O₃ coating amount that exhibited the highest capacity retention was 0.2 wt.%.

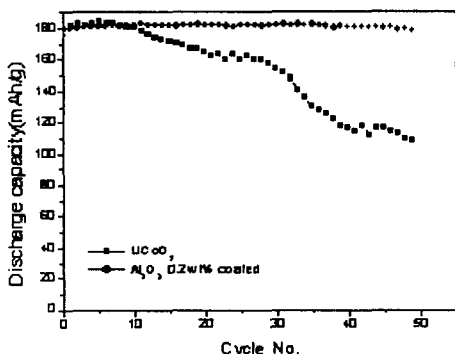


Fig. 1. Cycleability of raw LiCoO₂ and Al₂O₃ coated LiCoO₂.

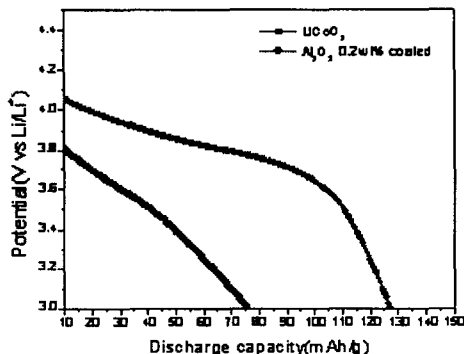


Fig. 2 Comparison of thermal stability of the cell between raw LiCoO₂ and Al₂O₃ coated LiCoO₂.