

Lipon Coatings for High Voltage and High Temperature Li-Ion Battery Cathodes

Disclosure Number

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Technology Summary

The present invention relates to improved energy density for rechargeable Li-ion batteries. Such improvements require use of high-capacity and high-voltage cathode materials, but charging to voltages approaching 4.5-5V invariably causes rapid loss of capacity with cycling. This degradation is attributed to several mechanisms, including oxygen loss, transition metal dissolution, lattice or particle instability, or reactions with the electrolyte or impurities. The present invention mitigates such degradation by providing a protective Lipon coating on surfaces of specific cathode compositions.

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