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锂离子电池正极/电解液的界面反应

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摘要：锂离子电池中的正极/电解液界面反应：电解液的氧化分解、正极材料腐蚀溶解及正极材料的自热氧化还原反应等，均能对电池的电化学性能和安全特性产生不良影响。正极材料的氧化性与电解液的不稳定是导致正极材料与电解液间反应的主要因素，正极材料的掺杂改性与表面包覆以及增强电解液稳定性是抑制此反应的主要途径。

关键词：锂离子电池；正极材料；电解液；界面

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Reactions at the interface of cathode and electrolyte in Li-ion batteries

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Abstract: Due to the cathode oxidizability and electrolyte instability, some primary reactions, such as electrolyte decomposition, cathode materials dissolution and self-heating redox reaction, arised at the cathode/electrolytes interface in Li-ion batteries, which deteriorated the electrochemical properties and safety of the batteries. Enhancing the electrolytes stability and modifying the cathode materials, both doping and surface coating were considered as the effective methods to reduce such reactions.

Key words: Li-ion batteries; cathode material; electrolyte; interface