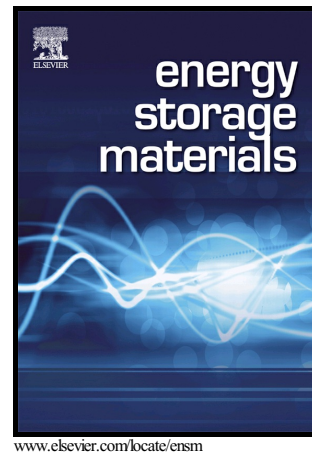


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## High Performance Lithium Metal Anode: Progress and Prospects

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### Abstract

With the development of electric vehicles and consumer electronics industrials, there are growing demands for high performance energy storage systems. Lithium metal anode is an ideal candidate for high energy density batteries based on its high theoretical specific capacity ( $3860 \text{ mA h g}^{-1}$ ) and the lowest electrochemical potential ( $-3.04 \text{ V}$  vs standard hydrogen electrode). However, the growth of Li dendrites and the low Coulombic efficiency (CE) during the Li plating and stripping processes have limited its commercial applications for decades. In this review article, the progresses of lithium metal anode for rechargeable lithium batteries are summarized in four aspects: electrolytes, separators, current collectors and lithium metal anode itself. The challenges and potential opportunities of lithium metal anode for practical applications are also discussed.

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