

# DMFC 中电催化剂的研究进展

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摘要: 从阳极催化剂的开发和阴极催化剂的开发两个方面重点综述了直接甲醇燃料电池(DMFC)中电催化剂的研究进展。概述了甲醇电催化氧化机理。研究表明: 阳极催化剂材料不仅可利用铂基二元或多元合金, 而且可利用不含贵金属铂的电子导电混合氧化物, 同时开发新的具有高活性和对甲醇无活性的氧还原反应非贵金属催化剂, 应成为阴极催化剂研究的一个重要方向。

关键词: 直接甲醇燃料电池; 甲醇氧化; 电催化剂; 氧还原

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## Research and development of electrocatalysts used in DMFC

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**Abstract:** The progress and recent status of the electro-catalysts used in direct methanol fuel cell (DMFC) was reviewed from the viewpoint of the development of anode catalyst and cathode catalyst. The mechanism for electrocatalytic oxidation of methanol was briefly summarized. It was demonstrated that not only the Pt-based binary or ternary alloys, but also electronically conducting mixed oxides could be used as anode catalyst materials, meanwhile, the development in the new oxygen reduction and methanol inert electrocatalyst containing non-noble metal with high activity and selectivity should become an important direction for cathode catalyst research.

**Key words:** DMFC; methanol oxidation; electrocatalyst; oxygen reduction