



阴极材料 $\text{LaFe}_{0.8-x}\text{Cu}_x\text{Ni}_{0.2}\text{O}_3$ 的合成和烧结性能 Synthesis and Sintering of Cathode Materials $\text{LaFe}_{0.8-x}\text{Cu}_x\text{Ni}_{0.2}\text{O}_3$

摘要点击: 576 全文下载: 425

[查看全文](#) [查看/发表评论](#) [下载PDF阅读器](#)

中文关键词: 阴极材料; $\text{LaFe}_{0.8-x}\text{Cu}_x\text{Ni}_{0.2}\text{O}_3$; 共沉淀法; 烧结性能

英文关键词: cathode material; $\text{LaFe}_{0.8-x}\text{Cu}_x\text{Ni}_{0.2}\text{O}_3$; Co-precipitation method; sintering

基金项目:

作者	单位
李嵩	大连海事大学材料工艺研究所, 大连 116026
文钟晟	大连海事大学材料工艺研究所, 大连 116026
季世军	大连海事大学材料工艺研究所, 大连 116026
孙俊才	大连海事大学材料工艺研究所, 大连 116026
程成	大连海事大学材料工艺研究所, 大连 116026

中文摘要:

英文摘要:

$\text{LaFe}_{0.8-x}\text{Cu}_x\text{Ni}_{0.2}\text{O}_3$ ($x=0.0-0.2$) (LFCN), a new cathode material of solid oxide fuel cell (SOFC), was synthesized by Co-precipitation method using sodium bicarbonate. The lattice structures of samples with different x contents were characterized by XRD. Porosity and density of the porous $\text{LaFe}_{0.8-x}\text{Cu}_x\text{Ni}_{0.2}\text{O}_3$ ($x=0.0-0.1$) as a function of sintering temperature were investigated. It was found that the orthorhombic structure could be formed after calcination at $900\text{ }^\circ\text{C}$ for 4 h. The particle size of LFCN was about 350 nm. The density of the porous LFCN increased with sintering temperature, but the opposite was true for the porosity. On the other hand, at the same sintering temperature, the porosity of $\text{LaFe}_{0.8-x}\text{Cu}_x\text{Ni}_{0.2}\text{O}_3$ ($x=0.0-0.1$) decreased with increasing x contents. It is indicated that the dopant of Cu on $\text{LaFe}_{0.8}\text{Ni}_{0.2}\text{O}_3$ can facilitate the sintering of the materials. After sintering at $1100\text{ }^\circ\text{C}$ for 4 h, the porous $\text{LaFe}_{0.7}\text{Cu}_{0.1}\text{Ni}_{0.2}\text{O}_3$ was still with appropriate structure, and its porosity was 29%.

[关闭](#)

您是第149248位访问者

主办单位: 中国化学会 单位地址: 南京大学化学楼

服务热线: (025)83592307 传真: (025)83592307 邮编: 210093 Email: wjhx@netra.nju.edu.cn

本系统由北京勤云科技发展有限公司设计