

Catalytic performance of  $\text{La}_{1-x}\text{Sr}_x\text{Cr}_{1-y}\text{M}_y\text{O}_{3-\delta}$   
(M=Ni, Fe) as anode materials for IT-SOFCs

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Solid oxide fuel cells(SOFCs) is an electrochemical energy conversion system with high efficiency and low-emission of pollution. The operation of SOFCs at intermediate-temperatures(IT-SOFCs) between 600°C and 800°C provides several advantages such as extensive selection of low-cost and high-performance component materials, offers high flexibility in fuel choice.

Propane is the main component of liquefied petroleum gas(LPG). It is cheap, widely available and it can be liquefied to facilitate its storage for specific applications. Due to these properties, desulphurised LPG has good properties to be used as fuel in portable power sources.

In this study of  $\text{La}_{1-x}\text{Sr}_x\text{Cr}_{1-y}\text{M}_y\text{O}_{3-\delta}$  (M=Ni, Fe) as the potential candidate for IT-SOFCs anode materials synthesized by citric acid and EDTA using sol-gel method. Catalysts sample was characterized by physicochemical methods(XRD, SEM, TEM, BET, TG/DTA) and studied in steam reforming of propane by gas chromatography. The conductivity was measured by the four-terminal d.c method in air, 5%  $\text{H}_2$  and 5% $\text{C}_3\text{H}_8$ .