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SOFC Operation on Biogas: Impurity Threshold Levels

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SOFC Oper.....

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Abstract

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Is (SOFC) hold great promise for their ability to valorise small scale into electricity. Biogas contains minor constituents, like siloxanes, VOCs and halogenated compounds, which can affect the durability of SOFCs. An obvious option in using biogas is gas clean-up. Technologies exist that can remove harmful impurities from biogas that will meet the cleanliness requirements of SOFC stacks, but these add to the system costs, which for small scale application should stay low. This study provides guidelines regarding the maximum impurity concentrations which can be tolerated in biogases after cleaning, for SOFC application. The degradation of anode-supported Ni-YSZ single cells and short stacks have been examined with fuels to which the following trace elements were added: H₂S, HCl, D4-siloxane, C₄H₄S (thiophene) and C₇H₈ (toluene).



**In case there is only 1 institution
no (1) are required!!**

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