

Fuel gas production by gasification of RPF using the catalysts

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The Refuse Derived Fuel (RDF) and Refuse Plastic Fuel (RPF) are created using advance technology for energy recovery from waste. The RPF used in this experiment is the solid fuel which contains more than 60% of waste plastic sources. This fuel can be directly ignited to produce energy but it is not environmental friendly. Lots of harmful pollutants similar to fossil fuel ignitions are emitted when RPF/RDF is burned for producing energy. To make this fuel better for environment, gasification of RPF/RDF is the most appropriate method. There are few data on the use of catalysts for fuel gas production from waste plastics. Maximizing hydrogen production by gasification of waste plastics is using the catalysts. Nickel based catalysts are effective for tar reduction and hydrogen production as they are commonly used in biomass by gasification. The main purpose of this work is to study the performing characteristics of gasification of Refuse Plastic Fuel (RPF) in a thermal process at high temperatures. Especially, experiment is focused on optimizing the experimental conditions in order to maximize the production of fuel gas.