

# **Biodiesel production from high FFA Rubber Seed oil**

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## **Abstract**

Sri Lanka should look at alternative fuel sources to reduce its dependence on foreign oils. Diesel is the highest used petroleum product in the transport sector. Biodiesel extracted from non edible oils like Rubber Seed Oil (RSO) is one such alternative fuel that is feasible in Sri Lanka. However RSO contains high amount of free fatty acid (FFA). This lowers the yield of methyl ester (biodiesel) formation if alkaline esterification is performed directly. Therefore a two-step transesterification process is used to convert high FFA non-edible oils to biodiesel. First step is acid esterification to reduce the FFA of oil and the second step is alkaline esterification to produce bio diesel from oil with FFA reduced. In this study two of the major factors that affect the efficiency of the acid esterification step were investigated. The properties of biodiesel produced with standard biodiesel and petroleum diesel fuel were also compared.