

## Influence of Synthetic Antioxidant in the Iodine Value and Acid Number of Jatropha Curcas Biodiesel

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**Abstract :** Biodiesel is one of the alternative fuels that promising for substituting petrodiesel as energy source which is have advantage on sustainability and eco-friendly. Due to the raw material that tend to decompose during storage, biodiesel also have the same characteristic that tend to decompose and formed higher acid value which is the result of oxidation to double bond on a chain of ester. Decomposition of biodiesel due to oxidation reaction could prevent by introduce a small amount of antioxidant. The origin of raw materials and the process for producing biodiesel will determine the effectiveness of antioxidant. The quality degradation on biodiesel could evaluated by measuring iodine value and acid number of biodiesel. Biodiesel made from High Fatty Acid Jatropha curcas oil equality by using esterification and esterification process will stand on the quality by introduce 90 ppm pyrogallol powder on the biodiesel, which could extend the quality from 2 hours to more than 6 hours in rancimat test evaluation.

**Keywords :** biodiesel, antioxidant, iodine number, acid value

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