

**Test The Calorific Value and Octane Value Using Bioethanol As A Mixture
Pertalite Fuel**

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ABSTRACT

The need for petroleum increases rapidly every year, the consumption of fuel is continuously taken and the amount of consumption over time is increasing. This study aims to determine the calorific value and octane value of a mixture of bagasse bioethanol with pertalite as fuel so that one day it can reduce or replace petroleum fuel. With the test results of pure pertalite, the heating value is 7258.968 cal / gram and an octane value of 90.5 RON, for pure bioethanol 99.5% the calorific value is 3740.988706 cal / gram and an octane value of 0.0 RON, for mixed variations. PB5% is the result of testing the calorific value of 6096,95312 cal / gram and the octane value is 96.5 RON, for PB10% the calorific value is 6386.23184 cal / gram and the octane value is 0.0 RON, for PB15% the calorific value is 6289.7056 cal / gram and octane value 0.0 RON, for PB20% the calorific value is 5852.28752 cal / gram and octane value 0.0 RON, for PB25% calorific value is 4932.13824 cal / gram and octane value 0.0 RON . From the test results, the calorific value and octane value conclude that the smaller the octane value, the greater the calorific value of the test data, the greater the calorific value affects the combustion process in the combustion chamber and the greater the octane value the harder it is to burn.

Key words: fuel, bioethanol, calorific value, octane value