

**Analisis Pengaruh Campuran Bahan Bakar Pertalite Dengan Bioaditif  
Minyak Cengkeh Terhadap Emisi Gas Buang Dan Konsumsi Bahan Bakar  
Motor 4 Langkah** (*An Analysis Of The Effect Of Pertalite Fuel Mixtures With Clove  
Oil Bioaditive On Exhaust Emissions And Feul Consumption And Fuel Consumption  
Of 4 Stroke Motorbike*)  
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***ABSTRACT***

*This research aims to determine the effect that appeared in the combination of clove oil and pertalite fuel on the octane value, exhaust emissions and injection along with the same CC (Cubical Centimete). The method used in this research was mixing clove oil with pertalite as fuel which was carried out with several comparisons. The ratio of clove oil and pertalite included 0% (100% pertalite), 5% (95% + 5% clove oil), 10% (90% + 10% clove oil), 15% (85% + 15% clove oil), 20% (80% + 20% clove oil), 25% (75% + 25% clove oil). The result of this research showed that the addition of clove oil bioadditive to the fuel can increase the octane value by 9,5% in the mixtures percentage of 10%. The results of examining the results of examining the exhaust emission on a 4 stroke motorbike carburation system can reduce levels of HC by 88,8%, CO by 73,1%, and CO<sub>2</sub> by 42% at a mixture percentage of 25%. The results of examining the results of examining the exhaust emission on a 4 stroke motorbike injection system can reduce levels of HC by 7,7%, CO by 10,2%, at a mixture percentage of 25%. The results of examining the fuel consumption can reduce fuel consumption by 9,1% in the carburetor of motorbike system and 3,8% in the injection of motorbike system with a mixed percentage of 25%.*

**Key Words :** *Clove Oil, Pertalite, Octane Value, Exhaust Emissions, Fuel Consumption*