

**Pengaruh Campuran Bahan Bakar Pertalite Dengan Bioaditif Terpentin Terhadap Nilai Oktan Dan Emisi Gas Buang Sepeda Motor** (*Effect of Pertalite Fuel Mixture with Turpentine Bioadditive on Octane Value and Motorcycle Exhaust Emissions*)  
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***ABSTRACT***

*This study aims to determine the effect that appears with the addition of turpentine oil with pertalite fuel on the octane value and exhaust emissions of a 4 stroke motorcycle. The method used in this research is mixing turpentine oil with pertalite fuel which is carried out with several comparisons. The comparison of turpentine oil with pertalite includes B0 (100% pertalite), B10 (pertalite 90% + 10% turpentine oil), B20 (80% pertalite + 20% turpentine oil), B30 (70% pertalite + 30% turpentine oil). The result of this research is the addition of turpentine oil bioadditive into the fuel can increase the octane value by 4.3% in the B30 mixture. The results of testing exhaust emissions on a 4 stroke motorcycle can reduce carbon monoxide (CO) levels by 21.9% in a B30 mixture, increase hydrocarbon (HC) levels by 21% in a B20 mixture, and increase carbon dioxide (CO<sub>2</sub>) levels by 1.6% and the last one can reduce oxygen (O<sub>2</sub>) levels by 2.9% in a mixture of B10 and B20.*

**Key Words :** *Turpentine Oil, Pertalite, Octane Rated, Exhaust Emission.*