ABSTRACT

Used oil is a waste that is classified as B3 waste, namely hazardous and toxic materials, one of the ways to handle used oil waste is by recycling it to reuse the energy contained in used oil which was previously used as a lubricant, and the impact can reduce environmental pollution. In this study, the utilization of used diesel engine oil waste using a mixture of sulfuric acid (H2SO4) and potassium hydroxide (KOH) with variations of 2%, 3%, and 5%. The parameters studied were density, kinematic viscosity, specific gravity, flash point, calorific value, and acid number. The results of the recycled fuel will be compared with standard diesel. For the density and specific gravity, the three samples have values according to the standard, the kinematic viscosity and flash point values of the sample are 5% close to the standard, the calorific value of the sample is 3% close to the maximum standard value and for the 2% and 5% samples it exceeds the maximum standard value, for the sample, 3% and 5% have not yet had an acid number value that is following the standard

Keywords: used oil, density, kinematic viscocity, *flash Point* , calorific value.