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Lubricating Grease from Waste Cooking Oil and Waste Motor Sludge

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Abstract : Increase in population has increased the demand of energy to fulfill all its needs. This will result in burden on fossil fuels especially crude oil. Waste oil due to its disposal problem creates environmental degradation. In this context, this paper studies utilization of waste cooking oil and waste motor sludge for making lubricating grease. Experimental studies have been performed by variation in time and concentration of mixture of waste cooking oil and waste motor sludge. The samples were analyzed using penetration test (ASTM D-217), dropping point (ASTM D-566), work penetration (ASTM D-217) and copper strip test (ASTM D-408). Among 6 samples, sample 6 gives the best results with a good drop point and a fine penetration value. The dropping point and penetration test values were found to be 205 °C and 315, respectively. The penetration value falls under the category of NLGI (National Lubricating Grease Institute) consistency number 1.

Keywords : crude oil, copper strip corrosion test, dropping point, penetration test
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