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REGENERATION, PURIFICATION AND CHARACTERIZATION OF SPENT WASTE LUBRICATING OIL AT LABORATORY SCALE

Abstract:

Engine Oils importance has been increased due to rapid progress of vehicle technology in the world. The lubricants are costly and need to be recycled to control economic drift. The disposal of Lubricating oil to the environment may cause serious deterioration in terms of pollution and degradation of surroundings.

In this research work spent lubricating oil is subjected to chemical treatment is collected and separated carefully. The resulting regenerated product was further characterized by different experimental apparatus available for viscosity, Specific gravity, pour point, cloud point and viscosity index.

Viscosity of the regenerated lubricating oil is measured by means of Viscometer apparatus. The viscosity of fresh market available sample of lubricating oil was also determined in order to compare regeneration efficiency. The specific gravity of regenerated lubricating oil was also determined using specific gravity bottle. Further the cloud point and pour point was measured for the sample of regenerated lubricating oil. The comparison of regenerated lubricating oil was done with reference to market available lubricating oil. It was discovered by comparing the regenerated sample of produced lubricating oil and available lubricating oil that the results of regenerated lubricating oil has minor difference of viscosity with that of the viscosity of the commercially available lubricating oil. The cloud point and pour point parity was also observed when collation was again done for regenerated lubricating oil with that sample of commercially available lubricating oil. The results of regenerated lubricating oil obtained are very well matched with that of market available lubricating oil.

Keywords:

Lubricating oil, Viscosity, Specific gravity