

USE OF GASEOUS HYDROCARBONS OBTAINED BY DEGRADATION OF WASTE PLASTIC AS A GASEOUS FUEL

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ABSTRACT

HDPE and LDPE waste plastics have been degraded using fly ash as a catalyst. Degradation has been done using cat/pol ratios 0.1, 0.15 and 0.2. The rate of evolution of gaseous products was measured using AVL di-gas analyzer. The yield of the gaseous product has been calculated in all cases. The flame temperature of the flame obtained by burning the gaseous product has been determined in all cases. The rate of evolution of gaseous products, the yield of gaseous products and the flame temperature increase with increases in cat/pol ratio. A maximum flame temperature of 805 °C has been obtained for the gaseous product obtained by the degradation of LDPE waste plastic using cat/pol ratio of 0.2

KEYWORDS: HDPE, LDPE, Degradation, Fly Ash, Gaseous Product, Flame Temperature