Cheap and Efficient Conversion of Plastic Garbage into Combustable Oil

Bin Ashraf, Haris
Tahir, Muhammad
Shah, Muhammad Babar

Shortage of natural resources is a serious problem for Earth. This project aims to solve this problem by converting Plastic garbage to Combustible Oil so it may be used as an energy source. This research involves the Destructive Distillation of Plastics in the presence of CUMENE (C9H12) – Iso-Propyle-Benzene. The plastic & Cumene are taken in a sealed container with one path opening into another container filled with water. A solar concentrator is directed towards the system. Plastics melt at 300-400° Celcius, but in the presence of Cumene, its melting point decreases (According to Law of Combustive Catalysis). In this way, when heat increases & fumes arise, they pass into the water container. The fumes liquefy to form Oil which rises over the water. If PVC is used, Chlorine gas also arises in the second chamber which is collected by an exhaust mechanism. This whole conversion takes place because plastic consists of Hydrocarbons, the same polymers which are basic constituents of Crude Oil. 1 Kg Plastic with 150ml of Cumene is able to produce 300ml of Oil. Further calculation shows that the price of our produced Oil is Rs.42/Liter. Whereas, the price for Crude Oil today is Rs.77/Liter. Therefore, this research project is a very important remedy as no energy intake is used in this system, only a solar concentrator is used. If this project is implemented on a large scale, it would certainly prove to be a huge success because of its need, productivity & most of all – Cost Efficiency!