

ABSTRACT

Plastic fuel is a substitute for fossil fuels. It is the liquid product obtained from the catalytic cracking of plastics. In catalytic cracking of plastics, using sand brick as catalyst, plastics can be turned to alkanes and alkene. Fractional distillation can be employed to separate the mixture of alkanes to different fractions of plastic fuels.

Plastic fuel has the following advantages:

1. Recycling of plastic waste can alleviate the burden on landfill sites.
2. Plastic fuels are more environmentally friendly than fossil fuels as burning of plastic fuels produces significantly less amount of soot.
3. A switch from fossil fuels to plastic fuels does not require modification of engines.
4. Cost of producing plastic fuels is low as plastics and sand brick are for free. Besides, the working conditions of catalytic cracking are milder than pyrolysis as Bunsen flame is hot enough to carry out the process.
5. Unlike fossil fuels, the prices of plastic fuels are stable as they are not subjected to political and climatic changes.

In this project, we investigate the following:

1. Production of plastic fuels from plastic waste like wrappings and drinking straws.
2. Comparison of the characteristics of different fractions of plastic fuels with fossil fuels.