Abstract

Biodiesel is an alternative fuel that is renewable and can be used as a substitute for fossil fuels. This fuel can be made from kapok seed oil by transesterification process.

In this process includes the step of making biodiesel - as the following stages, the first stage is heating oil kapok seed before entering the stage of neutralization. From the reactor was poured into a centrifuge to separate the oil with soap stock. The next stage is the process of transesterification. Transesterification reactor comprises two units and the oil that comes out of each reactor is passed through a decanter. The last stage is the refinery (refinery) at this stage, the oil brought into the device and the wash water column in the decanter is passed once again to further increase the purity of biodiesel product. And before accommodated, water on methyl ester removed by vacuum dryer. Lastly, biodiesel products have been formed subsequently stored in storage tanks.

The biodiesel plant is scheduled to operate semi-continuously for 24 hours / day and 330 operational days / year biodiesel production 586,717.6717 kg / day, the raw material needed kapok seed oil as much as 600 000 kg / day.

NaOH supporting material: 1678.2367 kg per day, methanol: 76978.01 kg / day, and NaOH: 6175.976 kg per day.

Keywords: Biodiesel, kapok seed oil, transesterification