ABSTRACT

Light Naphtha is a mixture produced by distillation of crude oil and it contains primarily alkane compounds which can be blended into gasoline. The octane value of methyl-substituted alkanes is higher than that of straight chain compounds, So it is advantageous to isomerize light naphtha to increase the proportion of branched compounds.

A Naphtha isomerization process has a feed of 10,000 barrels per day. The feed is heated and sent to a reactor. The reactor products are fed to a distiallatiin column operated at 300 kPa. The bottom product of the distillation is rich in n-hexane and is recycled to the reactor feed. An overall conversion of 95% is achieved.

Simulate the process to determine the recycle flow rate and composition.