

Production of Vinyl Chloride

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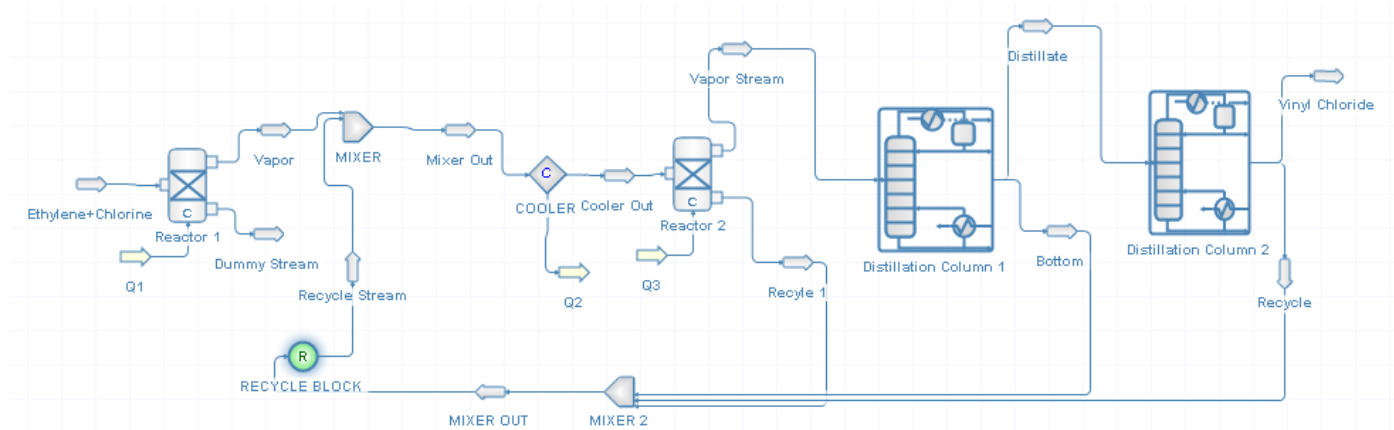
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ABSTRACT

Vinyl chloride is an organochloride whose colourless monomer is an important industrial chemical chiefly used to produce the polymer polyvinyl chloride (PVC). It is produced by a vapor phase conversion reactions, with ethylene and chlorine as reactants. In the first conversion reactor, Ethylene and Chlorine reacts to produce Ethylene dichloride. Both vapor and liquid stream along with recycle stream is taken into the second reactor. In the second reactor Ethylene dichloride splits into Vinyl Chloride and Hydrogen Chloride (HCl). Since, the product stream is a mixture of various compounds this stream has to undergo a separation process, hence distillation plays a crucial role. The liquid stream of second reactor is taken as recycle and vapor stream is taken into 40 stage distillation column. This column separates Vinyl Chloride from other compounds, the vapour stream contains 83% pure vinyl chloride. For further purification this stream is taken into second distillation column where the undesired compounds are removed, giving 100% pure Vinyl Chloride as product. The liquid stream is sent back for recycle for better yield.

FLWSHEET



RESULTS

Distillation Column 2

Composition

Compound	Amount
Chlorine	0
Ethylene	0
1,1-dichloroethane	1.2991152E-20
Hydrogen Chloride	1.8832953E-19
Vinyl Chloride	1

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