

Production of Ethyl acetate from Ethanol and Acetic acid

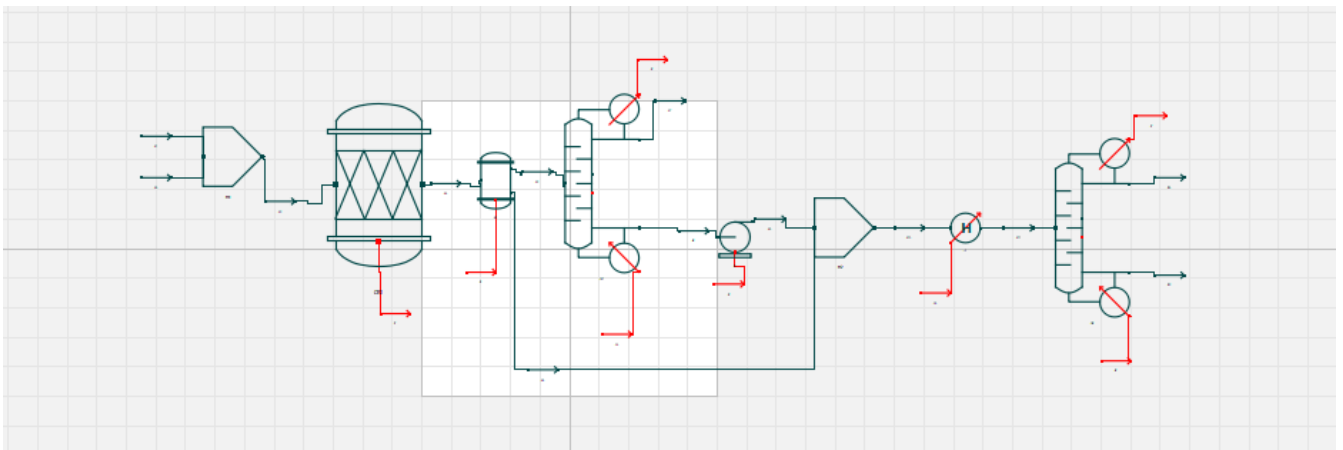
Ayushi Sinha

NIT Warangal

Background & Description:

Ethyl acetate is colourless organic compound which is used in glues, nail polish removers and as an industrial solvent. This flowsheet handles the production of ethyl acetate from the reaction of ethanol and acetic acid after mixing them in 1:1 ratio. The conversion is 100% and the vapours of ethyl acetate and water are sent through a distillation column to provide a pure acetic acid distillate and bottoms. The bottom stream is mixed with the second stream from the reactor (then compound separator) and heated to be sent through another distillation column to give distillate and a stream of pure water.

Flowsheet:



Results:

<i>Mole fraction</i>	Feed 1	Feed 2	Product 1	Product 2 (bottoms)	Distillate
<i>Ethanol</i>	1	0	0	0	0
<i>Acetic Acid</i>	0	1	0	0	0
<i>Ethyl acetate</i>	0	0	0.997	0.004	0.0887
<i>Water</i>	0	0	0.003	0.996	0.9113