

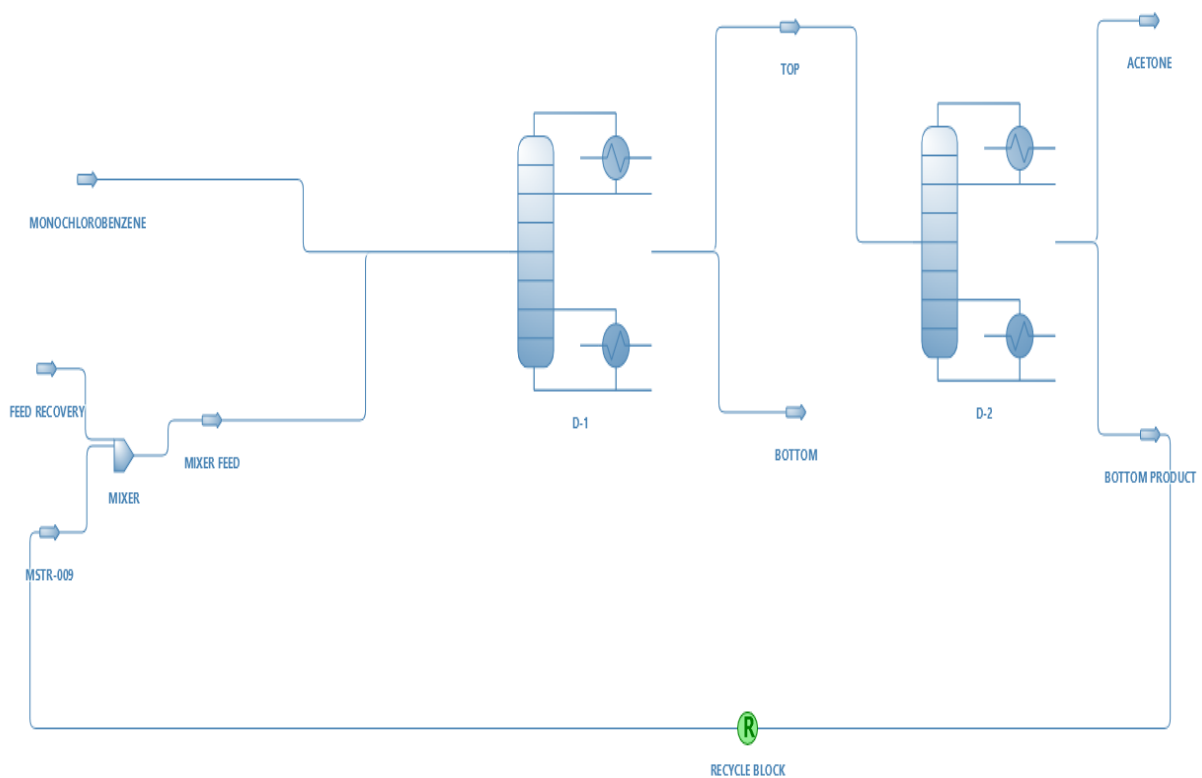
EXTRACTIVE DISTILLATION OF ACETONE-WATER SOLUTION

PROBLEM STATEMENT:

Extractive Distillation of Acetone and Water by using Monochlorobenzene as a solvent.

OBJECT USED:

1. Distillation column
2. Material Stream
4. Recycle block



DESCRIPTION:

In column-I, Fresh feed with recycle stream (i.e., bottom product from D-2) at 101.325 kPa and monochlorobenzene as a solvent is passed in the D-1 column. The Top product is again passed to D-2 where acetone is get separated from the mixture. And the bottom product is again passed to recycle with fresh stream.

The property table for the flowsheet is given below:

Master Property Table						
Object	TOP	MONOCHLOROBENZENE	BOTTOM PRODUCT	BOTTOM	ACETONE	
Temperature	331.798	298.15	333.794	374.054	329.535	K
Pressure	101325	101325	101325	101325	101325	Pa
Mass Flow	1.84323	1	0.961181	1.11456	0.882048	kg/s
Mass Fraction (Mixture) / Monochlorobenzene	0.00210106	1	0.0040129	0.897208	1.76283E-05	
Mass Fraction (Mixture) / Acetone	0.965614	0	0.93694	1.67311E-10	0.996862	

REFERENCES :

Mass Transfer and Separation Processes by Binay K. Dutta, PHI
Edition