

Project - Extractive Distillation For Separation Of Acetonitrile/N-Propanol Using N -Methyl Pyrrolidone As Entrainer

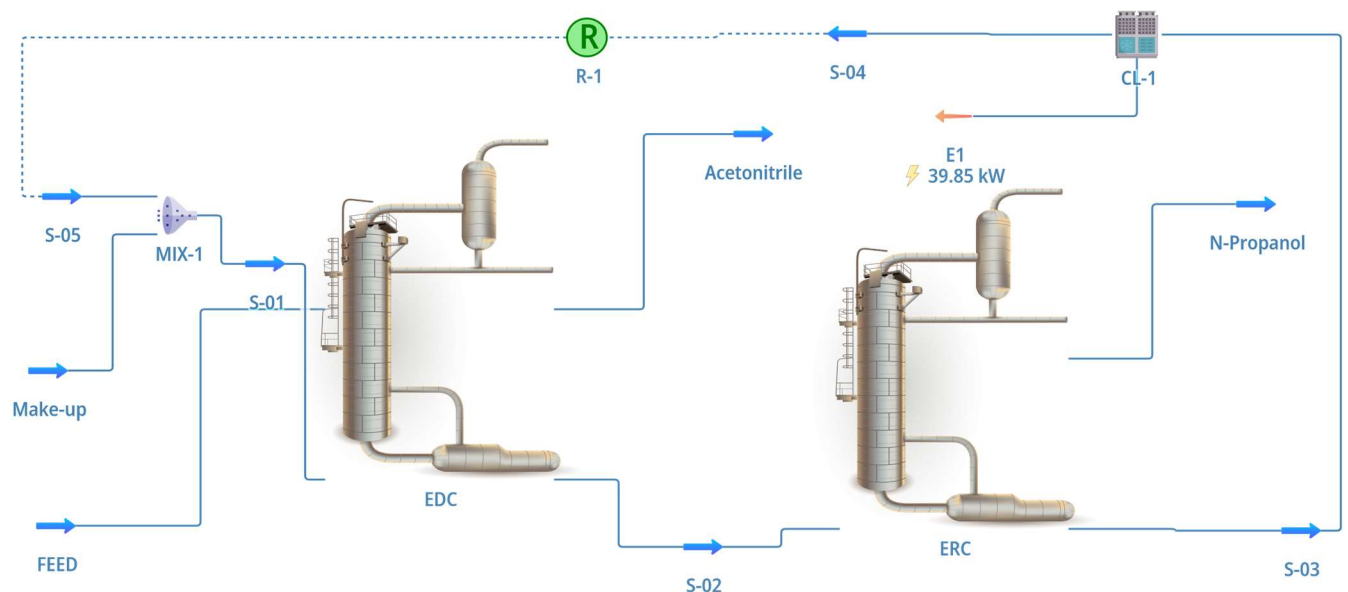
Name- Navin Kumar

Institute Name - Dr. S. S. Bhatnagar University Institute of Chemical Engineering and Technology

Background & Description:

Acetonitrile and n-propanol are widely applied in chemical industries which can be used as mobile phase in liquid chromatography and electrolytes as mixture of acetonitrile N-propanol and water in fine chemical industry, which may cause environmental pollution if discharged directly. Therefore, the separation and recycle of these two chemicals are necessary. Typically, distillation is accepted as an efficient method for separating and purifying the mixture.

Thermodynamic Model used – NRTL



Master Table				
Object		N-PROPANOL	ACETONITRILE	
Molar Flow		3.38518	18.7779	Kmol/hr
Molar Fraction (Mixture) / Acetonitrile		0.006112	0.97182	
Molar Fraction (Mixture) / N-propanol		0.99388	0.0281575	
Molar Fraction (Mixture) / N-methyl-2-pyrrolidone		6.84832E-10	3.12517E-09	