Appendix

**Useful equations and constants**

*n*1*l*1=*n*2*l*2

Δ*T*=*K*b*m* and Δ*T*=*K*f*m* (m – molality)

*R*=8.314 J K-1 mol-1

*k*=1.381\*10-23 J K-1

*F*=*C*-*P*+2

 Darcy’s law, **** – specific cake resistance

Constant Rate filtration, P vs time, *RM*-filter resistance

Constant P filtration, linearized parabolic rate law

Filtrate velocity

Relative volatility Dalton’s Law Raoult’s law

Vapor composition, ideal mixtures, ,****** relative volatility

  modified Raoult’s law for non-ideal mixtures,  –liquid phase activity coeff.

Antoine equation for vapour pressure, given constants A, B, C.

Dimensionless Operating line equation for flash distillation

 F = feed, L = liquid fraction, V = vapour

 z conc. In feed, y conc. In liquid, x conc. In vapour

 vg = sedimentation velocity, d = particle diameter, p – l = difference in densities b/n particle and liquid, g = acceleration,  = viscosity of liquid.

***g* = *r* *w*2 Relationship between rotor radius and angular velocity.**