
Scheme-3 Reactor-2

Part-1, Case-2

*tend = 60 sec
k1 = 100, k2 = 10*

NBt/NA_t = 1.44727

*Exponent a = 1
Exponent b = 1
Exponent c = 0.5
Exponent d = 1.5*

*WA = 200
WB = 72.3634
NBt = 3.85938
Vt = 2.13618
Tot.Solv. = 2
Sola/(SolR+Sola) = 0.5*

*CA0 = 1.24833
CB0 = 1.80667*

*Total input = 272.363 kg
Total output = 272.365 kg*

Chemical Balance Error = 0.00121957 kg (% 4.47772e-06)

*Solver: Explicit Runge-Kutta (4,5) Variable step (Dormand-Prince Pair)
Error tolerance: 0.1%*

Final Concentrations with Step Size limited to 0.0001

*CA (final) = 0.0125705
CB (final) = 1.29725e-08
CR (final) = 0.664853
CS (final) = 0.57091*

*CA @ 30.0s = 0.0125709
CB @ 30.0s = 2.7633e-08
CR @ 30.0s = 0.664852
CS @ 30.0s = 0.57091*

Final Concentrations with Step Size limited to 0.001

*CA (final) = 0.0124932
CB (final) = 7.03468e-07
CR (final) = 0.665008
CS (final) = 0.570832*

