
Scheme-4 Reactor-2

Part-2, Case-2

*tend = 240 sec
k1 = 0.1, k2 = 0.01*

NBt/NA_t = 1.31326

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

*WA = 200
WB = 65.6628
NBt = 3.50201
Vt = 2.13283
Tot.Solv. = 2
Sola/(SolR+Sola) = 0.5*

*CA0 = 1.25029
CB0 = 1.64196*

*Total input = 265.663 kg
Total output = 265.664 kg*

Chemical Balance Error = 0.000862032 kg (% 3.24483e-06)

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

Final Concentrations with Step Size limited to 0.001

*CA (final) = 0.0125111
CB (final) = -3.16411e-12
CR (final) = 0.833611
CS (final) = 0.404172*

*CA @ 120.0s = 0.012538
CB @ 120.0s = 0.00608874
CR @ 120.0s = 0.839646
CS @ 120.0s = 0.398111*

Final Concentrations with Step Size limited to 0.01

*CA (final) = 0.0125111
CB (final) = 3.59913e-12
CR (final) = 0.833611
CS (final) = 0.404172*

