
Scheme-3 Reactor-2

Part-3, Case-1

*tend = 360 sec
k1 = 0.1, k2 = 0.002*

NBt/NA_t = 1.1628

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

*WA = 200
WB = 58.1402
NBt = 3.10081
Vt = 2.12907
Tot.Solv. = 2
Sola/(SolR+Sola) = 0.5*

*CA0 = 1.2525
CB0 = 1.45642*

*Total input = 258.14 kg
Total output = 258.141 kg*

Chemical Balance Error = 0.000457864 kg (% 1.7737e-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) = 0.0125152
CB (final) = 0.00137514
CR (final) = 1.02493
CS (final) = 0.215053*

*CA @ 180.0s = 0.0188498
CB @ 180.0s = 0.0611762
CR @ 180.0s = 1.07207
CS @ 180.0s = 0.161587*

Final Concentrations with Step Size limited to 0.01

*CA (final) = 0.0125152
CB (final) = 0.00137514
CR (final) = 1.02493
CS (final) = 0.215053*

