
Scheme-5 Reactor-2

Part-2, Case-1

*tend = 360 sec
k1 = 0.1, k2 = 0.01*

NBt/NA_t = 1.67212

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

*WA = 200
WB = 83.6061
NBt = 4.45899
Vt = 2.1418
Tot.Solv. = 2
Sola/(SolR+Sola) = 0.5*

*CA0 = 1.24506
CB0 = 2.08189*

*Total input = 283.606 kg
Total output = 283.608 kg*

Chemical Balance Error = 0.0017965 kg (% 6.33448e-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) = 0.0124504
CB (final) = 0.010503
CR (final) = 0.393828
CS (final) = 0.838778*

*CA @ 180.0s = 0.0211658
CB @ 180.0s = 0.145112
CR @ 180.0s = 0.511006
CS @ 180.0s = 0.712885*

Final Concentrations with Step Size limited to 0.01

*CA (final) = 0.0124504
CB (final) = 0.010503
CR (final) = 0.393828
CS (final) = 0.838778*

