
Scheme-5 Reactor-2

Part-1, Case-2

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

NBt/NA_t = 1.66371

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

*WA = 200
WB = 83.1856
NBt = 4.43657
Vt = 2.14159
Tot.Solv. = 2
Sola/(SolR+Sola) = 0.5*

*CA0 = 1.24518
CB0 = 2.07162*

*Total input = 283.186 kg
Total output = 283.187 kg*

Chemical Balance Error = 0.00179656 kg (% 6.34411e-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) = 0.01245
CB (final) = 2.74637e-09
CR (final) = 0.393839
CS (final) = 0.83889*

*CA @ 30.0s = 0.01245
CB @ 30.0s = 6.40734e-09
CR @ 30.0s = 0.393839
CS @ 30.0s = 0.83889*

Final Concentrations with Step Size limited to 0.001

*CA (final) = 0.01245
CB (final) = 2.69905e-07
CR (final) = 0.393839
CS (final) = 0.83889*

