
Scheme-9 Reactor-2

Part-1, Case-1

*tend = 6 sec
k1 = 100, k2 = 10*

NBt/NA_t = 1.41878

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

*WA = 200
WB = 70.939
NBt = 3.78341
Vt = 2.13547
Tot.Solv. = 2
Sola/(SolR+Sola) = 0.5*

*CA0 = 1.24875
CB0 = 1.7717*

*Total input = 270.939 kg
Total output = 270.94 kg*

Chemical Balance Error = 0.00114343 kg (% 4.22025e-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) = 0.0124954
CB (final) = 7.39263e-12
CR (final) = 0.700807
CS (final) = 0.535447*

*CA @ 3.0s = 0.0124954
CB @ 3.0s = 1.83496e-11
CR @ 3.0s = 0.700807
CS @ 3.0s = 0.535447*

Final Concentrations with Step Size limited to 0.001

*CA (final) = 0.0124954
CB (final) = 1.02745e-09
CR (final) = 0.700807
CS (final) = 0.535447*

