
Scheme-1 Reactor-1

Part-1, Case-2

$t_a = 600 \text{ sec}$, $t_m = 600 \text{ sec}$
 $k_1 = 100$, $k_2 = 10$

$NB_t/NA_t = 1.2901$

Exponent $a = 1$
Exponent $b = 1$
Exponent $c = 1$
Exponent $d = 1$

$WA = 200$
 $WB = 64.505$
 $NB_t = 3.44027$
 $V_t = 2.13225$
 $V_{at} = 1.03225$
 $Tot.Solv. = 2$
 $SolA/(SolR+SolA) = 0.5$

$NA_0 = 2.66667$
 $NB_0 = 0$

Total input = 264.505 kg
Total output = 264.506 kg

Chemical Balance Error = 0.000670506 kg (% 2.53495e-06)

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

Final Concentrations with Step Size limited to 0.01

$NA \text{ (final)} = 0.0266498$
 $NB \text{ (final)} = 4.94066e-323$
 $NR \text{ (final)} = 1.83977$
 $NS \text{ (final)} = 0.800242$

Final Concentrations with Step Size limited to 0.1

$NA \text{ (final)} = 0.0266578$
 $NB \text{ (final)} = 4.94066e-324$
 $NR \text{ (final)} = 1.83982$
 $NS \text{ (final)} = 0.800188$



