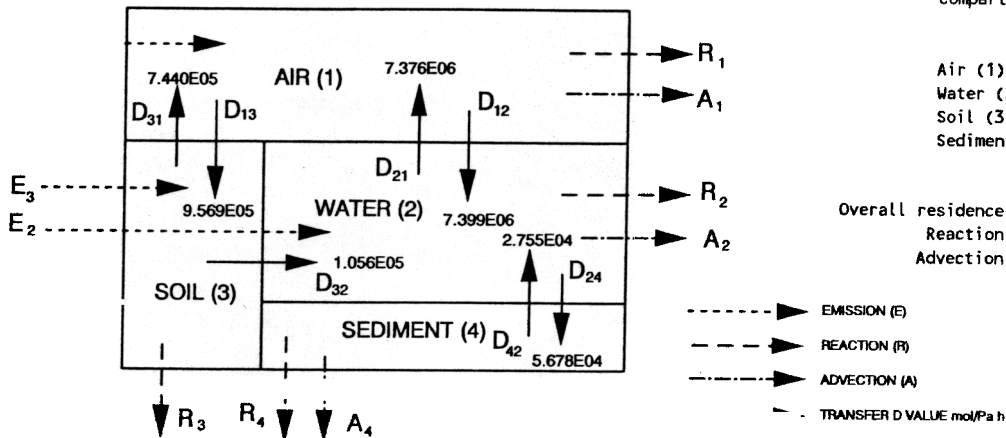


Fugacity Level III calculations: (four compartment model)

Chemical name: Naphthalene



Phase Properties and Rates:

Compartment	Bulk	D Values		
	Z mol/m ³ Pa	Half-life h	Reaction mol/Pa h	Advection mol/Pa h
Air (1)	4.034E-04	17	1.64E+09	4.03E+08
Water (2)	2.329E-02	170	1.90E+07	4.66E+06
Soil (3)	5.434E-01	1700	3.99E+06	
Sediment (4)	4.477E-01	5500	2.82E+04	4.48E+03
Overall residence time =	E(1)=1000 21.15	E(2)=1000 161.82	E(3)=1000 2029.01	E(1,2,3) 264.13 h
Reaction time =	26.33	201.50	2101.70	322.38 h
Advection time =	107.38	821.81	58664.77	1461.91 h

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Phase Properties, Compositions, Transport and Transformation Rates:

Emission, kg/h			Fugacity, Pa				Concentration, g/m ³				Amounts, kg				Total
E(1)	E(2)	E(3)	f(1)	f(2)	f(3)	f(4)	C(1)	C(2)	C(3)	C(4)	m(1)	m(2)	m(3)	m(4)	Amount, kg
1000	0	0	3.797E-06	9.074E-07	7.511E-07	8.554E-07	1.964E-07	2.709E-06	5.233E-05	4.909E-05	1.964E+04	5.418E+02	9.419E+02	2.455E+01	2.115E+04
0	1000	0	9.019E-07	2.514E-04	1.784E-07	2.370E-04	4.664E-08	7.507E-04	1.243E-05	1.360E-02	4.664E+03	1.501E+05	2.237E+02	6.802E+03	1.618E+05
0	0	1000	6.038E-07	5.629E-06	1.613E-03	5.307E-06	3.122E-08	1.680E-05	1.124E-01	3.045E-04	3.122E+03	3.361E+03	2.022E+06	1.523E+02	2.029E+06
600	300	100	2.609E-06	7.654E-05	1.618E-04	7.216E-05	1.349E-07	2.285E-04	1.127E-02	4.141E+03	1.349E+04	4.570E+04	2.029E+05	2.071E+03	2.641E+05

Emission, kg/h			Loss, Reaction, kg/h				Loss, Advection, kg/h			Intermedia Rate of Transport, kg/h						
E(1)	E(2)	E(3)	R(1)	R(2)	R(3)	R(4)	A(1)	A(2)	A(4)	T12	T21	T13	T31	T32	T24	T42
1000	0	0	8.005E+02	2.208E+00	3.84E-01	3.093E-03	1.964E+02	5.418E-01	4.909E-04	3.602E+00	8.578E-01	4.658E-01	7.164E-02	1.017E-02	6.604E-03	3.020E-03
0	1000	0	1.901E+02	6.120E+02	9.12E-02	8.571E-01	4.664E+01	1.501E+02	1.360E-01	8.554E-01	2.377E+02	1.106E-01	1.702E-02	2.415E-03	1.830E+00	8.369E-01
0	0	1000	1.273E+02	1.370E+01	8.24E+02	1.919E-02	3.122E+01	3.361E+00	3.045E-03	5.726E-01	5.322E+00	7.405E-02	1.538E+02	2.183E+01	4.097E-02	1.874E-02
600	300	100	5.501E+02	1.863E+02	8.27E+01	2.609E-01	1.349E+02	4.570E+01	4.141E-02	2.475E+00	7.236E+01	3.200E-01	1.543E+01	2.190E+00	5.571E-01	2.548E-01

Figure 1.9 Fugacity Level III calculation for naphthalene in a generic environment (dimensions defined in Table 1.2).