

Table A-1. Selected data on DNAPL chemicals (refer to explanation in Appendix A.)

DNAPL	Synonym	CAS #	Empirical Formula	Formula Weight (g)	Ref.	Specific Density (g/cc)	Ref.	Absolute Viscosity (cp)	Ref.
Aniline	Benzenamine	62-53-3	C ₆ H ₇ N	93.13	b	1.022	b	4.40	c
o-Anisidine	2-Methoxybenzenamine	90-04-0	C ₇ H ₉ NO	123.15	b	1.092	b		
Benzyl alcohol	Benzenemethanol	100-51-6	C ₇ H ₈ O	108.14	a	1.045	a	7.76	d(15)
Benzyl chloride	Chloromethylbenzene	100-44-7	C ₇ H ₇ Cl	126.59	a	1.100	a		
Bis(2-chloroethyl)ether	Bis(-chloroethyl)ether	111-44-4	C ₄ H ₈ Cl ₂ O	143.01	b	1.220	b	2.14	c(25)
Bis(2-chloroisopropyl)ether	Bis(-chloroisopropyl)ether	108-60-1	C ₆ H ₁₂ Cl ₂ O	171.07	a	1.103	a		
Bromobenzene	Phenyl bromide	108-86-1	C ₆ H ₅ Br	157.01	b	1.495	b	0.99	e(30)
Bromochloromethane	Chlorobromomethane	74-97-5	CH ₂ BrCl	129.39	b	1.934	b	0.57	h
Bromodichloromethane	Dichlorobromomethane	75-27-4	CHBrCl ₂	163.83	a	1.980	a	1.71	e
Bromoethane	Ethyl bromide	74-96-4	C ₂ H ₅ Br	108.97	b	1.460	b	0.418	d(15)
Bromoform	Tribromomethane	75-25-2	CHBr ₃	252.73	a	2.890	a	2.02	c
Butyl benzyl phthalate	Benzyl butyl phthalate	85-68-7	C ₁₉ H ₂₀ O ₄	312.37	a	1.120	a		
Carbon disulfide	Carbon bisulfide	75-15-0	CS ₂	76.13	a	1.263	a	0.37	c
Carbon tetrachloride	Tetrachloromethane	56-23-5	CCl ₄	153.82	a	1.594	a	0.97	c
Chlorobenzene	Benzene chloride	108-90-7	C ₆ H ₅ Cl	112.56	a	1.106	a	0.80	c
2-Chloroethyl vinyl ether	(2-Chloroethoxy)ethene	110-75-8	C ₄ H ₇ ClO	106.55	a	1.048	a		
Chloroform	Trichloromethane	67-66-3	CHCl ₃	119.38	a	1.483	a	0.58	c
1-Chloro-1-nitropropane	Chloronitropropane	600-25-9	C ₃ H ₆ ClNO ₂	123.54	b	1.209	b		
2-Chlorophenol	o-Chlorophenol	95-57-8	C ₆ H ₅ ClO	128.56	a	1.263	a	2.25	e(45)
4-Chlorophenyl phenyl ether	p-Chlorodiphenyl ether	7005-72-3	C ₁₂ H ₉ ClO	204.66	a	1.203	a		
Chloropicrin	Trichloronitromethane	76-06-2	CCl ₃ NO ₂	164.38	b	1.656	b		
m-Chlorotoluene		108-41-8	C ₆ H ₄ CH ₃ Cl	126.59	f	1.072	f	0.75	h(38)
o-Chlorotoluene	2-Chloro-1-methylbenzene	95-45-8	C ₆ H ₄ CH ₃ Cl	126.58	f	1.082	f	0.75	h(38)
p-Chlorotoluene		106-43-4	C ₆ H ₄ CH ₃ Cl	126.59	f	1.066	f(25)		
Dibromochloromethane	Chlorodibromomethane	124-48-1	CHBr ₂ Cl	208.28	a	2.451	a		
1,2-Dibromo-3-chloropropane	DPCCP	96-12-8	C ₃ H ₅ Br ₂ Cl	236.36	b	2.050	b		
Dibromodifluoromethane	Freon 12-B2	75-61-6	CBr ₂ F ₂	209.82	b	2.297	b		
Dibutyl phthalate	Dibutyl-n-phthalate; DBP	84-74-2	C ₁₆ H ₂₂ O ₄	278.35	a	1.046	a	20.30	c
1,2-Dichlorobenzene	o-Dichlorobenzene	95-50-1	C ₆ H ₄ Cl ₂	147.00	a	1.305	a	1.32	c(25)
1,3-Dichlorobenzene	m-Dichlorobenzene	541-73-1	C ₆ H ₄ Cl ₂	147.00	a	1.288	a	1.04	c(25)
1,1-Dichloroethane	1,1-DCA	75-34-3	C ₂ H ₄ Cl ₂	98.96	a	1.176	a	0.44	c
1,2-Dichloroethane	Ethylene dichloride; 1,2-DCA	107-06-2	C ₂ H ₄ Cl ₂	98.96	a	1.235	a	0.80	c
1,1-Dichloroethene	Vinylidene chloride; 1,1-DCE	75-35-4	C ₂ H ₂ Cl ₂	96.94	a	1.218	a	0.36	c
trans-1,2-Dichloroethene	trans-1,2-DCE	156-60-5	C ₂ H ₂ Cl ₂	96.94	a	1.257	a	0.40	c
1,2-Dichloropropane	Propylene dichloride	78-87-5	C ₃ H ₆ Cl ₂	112.99	a	1.560	a	0.86	c
cis-1,3-Dichloropropene	cis-1,3-Dichloropropylene	10061-01-5	C ₃ H ₄ Cl ₂	110.97	a	1.224	a		
trans-1,3-Dichloropropene	trans-1,3-Dichloropropylene	10061-02-6	C ₃ H ₄ Cl ₂	110.97	a	1.182	a		
Dichlorvos	No-Pest Strip	62-73-7	C ₄ H ₇ Cl ₂ 4P	220.98	b	1.415	b(25)		
Diethyl phthalate	DEP	84-66-2	C ₁₂ H ₁₄ O ₄	222.24	a	1.118	a	35.00	c
Dimethyl phthalate	DMP	131-11-3	C ₁₀ H ₁₀ O ₄	194.19	a	1.191	a	17.20	c(25)

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DNAPL	Synonym	CAS #	Empirical Formula	Formula Weight (g)	Ref.	Specific Density (g/cc)	Ref.	Absolute Viscosity (cp)	Ref.
Ethylene dibromide	1,2-Dibromoethane; EDB	106-93-4	C ₂ H ₄ Br ₂	187.86	b	2.179	b	1.72	c
Hexachlorobutadiene	HCBD	87-68-3	C ₄ Cl ₆	260.76	a	1.554	a	2.45	c(38)
Hexachlorocyclopentadiene	HCCPD	77-47-4	C ₅ Cl ₆	272.77	a	1.702	a		
Iodomethane	Methyl iodide	74-88-4	CH ₃ I	141.94	b	2.279	b	0.52	d(15)
1-Iodopropane	Propyl iodide	107-08-4	C ₃ H ₇ I	169.99	b	1.749	b	0.84	d(15)
Malathion		121-75-5	C ₁₀ H ₁₉ O ₆ PS ₂	330.36	b	1.230	b(25)		
Methylene chloride	Dichloromethane	75-09-2	CH ₂ Cl ₂	84.93	a	1.327	a	0.43	c
Nitrobenzene	Nitrobenzol	98-95-3	C ₆ H ₅ NO ₂	123.11	a	1.204	a	2.01	c
Nitroethane	UN 2842	79-24-3	C ₂ H ₅ NO ₂	75.07	b	1.045	b(25)	0.66	d(25)
1-Nitropropane	UN 2608	108-03-2	C ₃ H ₇ NO ₂	89.09	b	1.008	b(24)	0.80	d(25)
2-Nitrotoluene	1-Methyl-2-nitrobenzene	88-72-2	C ₇ H ₇ NO ₂	137.14	b	1.163	b	2.37	d
3-Nitrotoluene	1-Methyl-3-nitrobenzene	99-08-1	C ₇ H ₇ NO ₂	137.14	b	1.157	b		
Parathion		56-38-2	C ₁₀ H ₁₄ NO ₅ PS	291.27	b	1.260	b		
PCB-1016	Aroclor 1016	12674-11-2	varies	257.90	a	1.330	a(25)	19.3	g(38)
PCB-1221	Aroclor 1221	11104-28-2	varies	192.00	a	1.180	a(25)	4.8	g(38)
PCB-1232	Aroclor 1232	11141-16-5	varies	221.00	a	1.240	a(25)	8.2	g(38)
PCB-1242	Aroclor 1242	53469-21-9	varies	261.00	a	1.392	a(15)	24	g(38)
PCB-1248	Aroclor 1248	12672-29-6	varies	288.00	a	1.410	a(25)	65	g(38)
PCB-1254	Aroclor 1254	11097-69-1	varies	327.00	a	1.505	a(15)	700	g(38)
Pentachloroethane	Ethane pentachloride	76-01-7	C ₂ HCl ₅	202.28	b	1.680	b	2.75	d(15)
1,1,2,2-Tetrabromoethane	Acetylene tetrabromide	79-27-6	C ₂ H ₂ Br ₄	345.65	b	2.875	b	9.79	d
1,1,2,2-Tetrachloroethane	Acetylene tetrachloride	79-34-5	C ₂ H ₂ Cl ₄	167.85	a	1.595	a	1.75	c
Tetrachloroethene	Perchloroethylene; PCE	127-18-4	C ₂ Cl ₄	165.83	a	1.623	a	0.89	c
Thiophene	Thiacyclopentadiene	110-02-1	C ₄ H ₄ S	84.14	b	1.065	b	0.65	d
1,2,4-Trichlorobenzene	1,2,4-TCB	120-82-1	C ₆ H ₃ Cl ₃	181.45	a	1.454	a	1.42	c
1,1,1-Trichloroethane	Methyl chloroform; 1,1,1-TCA	71-55-6	C ₂ H ₃ Cl ₃	133.40	a	1.339	a	1.20	c
1,1,2-Trichloroethane	1,1,2-TCA	79-00-5	C ₂ H ₃ Cl ₃	133.40	a	1.440	a	0.12	c
Trichloroethene	TCE	79-01-6	C ₂ HCl ₃	131.39	a	1.464	a	0.57	c
1,1,2-Trichlorofluoromethane	Freon 11	75-69-4	CCl ₃ F	137.37	a	1.487	a	0.42	c(25)
1,2,3-Trichloropropane	Allyl trichloride	96-18-4	C ₃ H ₅ Cl ₃	147.43	b	1.3889	b		
1,1,2-Trichlorotrifluoroethane	Freon 113	76-13-1	C ₂ Cl ₃ F ₃	187.38	b	1.564	b		
Tri-o-cresyl phosphate	o-Cresyl phosphate	78-30-8	C ₂₁ H ₂₁ O ₄ P	368.37	b	1.955	b	80.00	d
Water	Ice	7732-18-5	H ₂ O	18.02		1.000		1.00	

Table A-1. (continued)

DNAPL	Boiling Point (deg.C)	Ref.	Melting Point (deg.C)	Ref.	Aqueous Solubility (mg/L)	Ref.	Vapor Pressure (mm Hg)	Ref.	Henry's Law Constant (atm-m ³ /mol)	Ref.
Aniline	184	b	-6	b	3.50E+04	b	3.00E-01	b	1.36E-01	b
o-Anisidine	224	b	6	b	1.30E+04	b	<0.1	b	1.25E-06	b
Benzyl alcohol	205	a	-15	a	3.50E+04	a	<1	a		a
Benzyl chloride	179	a	-39	a	4.93E+02	a	9.00E-01	a	3.04E-04	a
Bis(2-chloroethyl)ether	179	b	-47	b	1.02E+04	b	7.10E-01	b	1.30E-05	b
Bis(2-chloroisopropyl)ether	187	a	-20	sax	1.70E+03	a	8.50E-01	a	1.10E-04	a
Bromobenzene	156	b	-31	b	5.00E+02	b	3.30E+00	b	2.40E-03	b
Bromochloromethane	68	b	-87	b	1.67E+04	b(25)	1.41E+00	b(25)	1.44E-03	b
Bromodichloromethane	90	a	-57	a	4.50E+03	a(0)	5.00E+01	a	2.12E-04	a
Bromoethane	38	b	-119	b	9.14E+03	b	3.75E+02	b	7.56E-03	b
Bromoform	149	a	8	a	3.01E+03	a	4.00E+00	a	5.32E-04	a
Butyl benzyl phthalate	370	a	-35	a	2.82E+00	a	8.60E-06	a	1.30E-06	a
Carbon disulfide	46	a	-112	a	2.10E+03	a	2.98E+02	a	1.33E-02	a
Carbon tetrachloride	77	a	-23	a	8.00E+02	a	9.00E+01	a	3.02E-02	a
Chlorobenzene	132	a	-46	a	5.00E+02	a	9.00E+00	a	4.45E-03	a
2-Chloroethyl vinyl ether	108	a	-70	a	1.50E+04	a	2.68E+01	a	2.50E-04	a
Chloroform	62	a	-63	a	8.00E+03	a	1.60E+02	a	3.20E-03	a
1-Chloro-1-nitropropane	142	b	<25	b	6.00E+00	b	5.80E+00	b(25)	1.57E-01	b
2-Chlorophenol	175	a	9	a	2.85E+04	a	1.42E+00	a(25)	8.28E-06	a
4-Chlorophenyl phenyl ether	284	a	-8	a	3.30E+00	a(25)	2.70E-03	a(25)	2.20E-04	a
Chloropicrin	112	b	-64	b	2.00E+03	b	2.00E+01	b	8.40E-02	b
m-Chlorotoluene	160	f	-48	f	4.80E+01	e	4.60E+00	e	1.60E-02	e
o-Chlorotoluene	159	f	-34	f	7.20E+01	e	2.70E+00	f	6.25E-03	e
p-Chlorotoluene	162	f	7	f	4.40E+01	e	4.50E+00	e	1.70E-02	e
Dibromochloromethane	117	a	-22	a	4.00E+03	a	7.60E+01	a	9.90E-04	a
1,2-Dibromo-3-chloropropane	196	b	6	b	1.00E+03	b	8.00E-01	b	2.49E-04	b
Dibromodifluoromethane	23	b	-141	b			6.88E+02	b		
Dibutyl phthalate	335	a	-35	a	1.01E+01	a	1.40E-05	a(25)	6.30E-05	a
1,2-Dichlorobenzene	180	a	-17	a	1.00E+02	a	1.00E+00	a	1.90E-03	a
1,3-Dichlorobenzene	173	a	-25	a	1.11E+02	a	2.30E+00	a(25)	3.60E-03	a
1,1-Dichloroethane	56	a	-97	a	5.50E+03	a	1.82E+02	a	4.30E-03	a
1,2-Dichloroethane	83	a	-35	a	8.69E+03	a	6.40E+01	a	9.10E-04	a
1,1-Dichloroethene	37	a	-122	a	4.00E+02	a	4.95E+02	a	2.10E-02	a
trans-1,2-Dichloroethene	47	a	-50	a	6.00E+02	a	2.65E+02	a	3.84E-01	a
1,2-Dichloropropane	96	a	-100	a	2.70E+03	a	4.20E+01	a	2.30E-03	a
cis-1,3-Dichloropropene	104	a	-84	a	2.70E+03	a	2.50E+01	a	1.30E-03	a
trans-1,3-Dichloropropene	112	a	-84	a	2.80E+03	a	2.50E+01	a	1.30E-03	a
Dichlorvos					1.00E+04	b	1.20E-02	b	5.00E-03	b
Diethyl phthalate	298	a	-40	a	9.28E+02	a	1.65E-03	a(25)	8.46E-07	a
Dimethyl phthalate	283	a	0	a	4.29E+03	a	1.65E-03	a(25)	4.20E-07	a

Table A-1. (continued)

DNAPL	Boiling Point (deg.C)	Ref.	Melting Point (deg.C)	Ref.	Aqueous Solubility (mg/L)	Ref.	Vapor Pressure (mm Hg)	Ref.	Henry's Law Constant (atm-m ³ /mol)	Ref.
Ethylene dibromide	131	b	10	b	4.32E+03	b	1.10E+01	b	7.06E-04	b
Hexachlorobutadiene	215	a	-21	a	2.55E+00	a	1.50E-01	a	2.60E-02	a
Hexachlorocyclopentadiene	237	a	-9	a	1.10E+00	a(22)	8.10E-02	a(25)	1.60E-02	a
Iodomethane	42.4	b	-66	b	1.40E+04	b	3.75E+02	b	5.48E-03	b
1-Iodopropane	102	b	-101	b	1.06E+03	b(23)	4.00E+01	b(24)	9.09E-03	b
Malathion			2.9	b	1.45E+02	b	1.25E-06	b	4.89E-09	b
Methylene chloride	40	a	-95	a	2.00E+04	a	3.49E+02	a	2.00E-03	a
Nitrobenzene	211	a	6	a	1.90E+03	a	1.50E-01	a	2.45E-05	a
Nitroethane	115	b	-50	b	4.50E+04	b	1.56E+01	b	4.66E-05	b
1-Nitropropane	130	b	-108	b	1.40E+04	b	7.50E+00	b	8.68E-05	b
2-Nitrotoluene	222	b	-3	b	6.00E+02	b	1.50E-01	b	4.51E-05	b
3-Nitrotoluene	233	b	16	b	5.00E+02	b	1.50E-01	b	5.41E-05	b
Parathion	375	b	6	b	1.20E+01	b	4.00E-04	b	8.56E-08	b
PCB-1016	325	a			2.30E-01	a	4.00E-04	a(25)		
PCB-1221	275	a	1	a	5.90E-01	a(24)	6.70E-03	a(25)	3.24E-04	a
PCB-1232	290	a	-35	a	1.45E+00	a(25)	4.60E-03	a(25)	4.64E+00	a
PCB-1242	325	a	-19	a	2.00E-01	a	1.00E-03	a	5.60E-04	a
PCB-1248	340	a	-7	a	5.00E-02	a	4.94E-04	a(25)	3.50E-03	a
PCB-1254	365	a	10	a	5.00E-02	a	6.00E-05	a	2.70E-03	a
Pentachloroethane	159	b	-22	b	5.00E+02	b	3.40E+00	b	2.45E-03	b
1,1,2,2-Tetrabromoethane	239	b	0	b	7.00E+02	b	1.00E-01	b	6.40E-05	b
1,1,2,2-Tetrachloroethane	146	a	-36	a	2.90E+03	a	5.00E+00	a	3.80E-04	a
Tetrachloroethene	121	a	-19	a	1.50E+02	a	1.40E+01	a	1.53E-02	a
Thiophene	84	b	-30	b	3.60E+03	b(18)	6.00E+01	b	2.93E-03	b
1,2,4-Trichlorobenzene	210	a	17	a	1.90E+01	a(22)	4.00E-01	a(25)	2.32E-03	a
1,1,1-Trichloroethane	74	a	-30	a	1.36E+03	a	1.00E+02	a	1.80E-02	a
1,1,2-Trichloroethane	114	a	-37	a	4.50E+03	a	1.90E+01	a	7.40E-04	a
Trichloroethene	87	a	-73	a	1.10E+03	a	5.78E+01	a	9.10E-03	a
1,1,2-Trichlorofluoromethane	24	a	-111	a	1.10E+03	a	6.87E+02	a	1.10E-01	a
1,2,3-Trichloropropane	142	b	-15	b			2.00E+00	b	3.18E-04	b
1,1,2-Trichlorotrifluoroethane	48	b	-35	b	2.00E+02	b	2.84E+02	b	3.33E-01	b
Tri-o-cresyl phosphate	410	b	-25	b	3.00E-01	b				
Water	100		0				1.75E+01			

Table A-1. (continued)

DNAPL	Log K _{oc} (mL/g)	Ref.	Log K _{ow}	Ref.	Vapor Density (g/L)	Ref.	Relative Vapor Density	Interfacial Liquid Tension (dyn/cm)	Ref.	Surface Tension (dyn/cm)	Ref.
Aniline	1.41	b	0.90	b	3.81	b	1.001	5.8		42.9	c
o-Anisidine			0.95	b	5.03	b					
Benzyl alcohol	1.98	a	1.10	a	4.42	a					
Benzyl chloride	2.28	a	2.30	a	5.17	a	1.004				
Bis(2-chloroethyl)ether	1.15	b	1.58	b	5.84	b	1.004			37.9	c
Bis(2-chloroisopropyl)ether	1.79	a	2.58	a	6.99	a	1.006				
Bromobenzene	2.33	b	3.01	b	6.42	b	1.019	39.8	j	35.8	e
Bromochloromethane	1.43	b	1.41	b	5.29	b	1.006			33.3	h
Bromodichloromethane	1.79	a	1.88	a	6.70	a	1.309				
Bromoethane	2.67	b	1.57	b	4.05	b	2.377			24.5	h
Bromoform	2.45	a	2.30	a	10.33	a	1.041			45.5	c
Butyl benzyl phthalate	2.32	a	4.78	a	12.76	a	1.000				
Carbon disulfide	2.47	a	1.84	a	3.11	a	1.646	48.4	j	32.3	c
Carbon tetrachloride	2.64	a	2.83	a	6.29	a	1.515	45.0	j	27.0	c
Chlorobenzene	1.68	a	2.84	a	4.60	a	1.035	37.4	j	33.2	c
2-Chloroethyl vinyl ether	0.82	a	1.28	a	4.36	a	1.095				
Chloroform	1.64	a	1.95	a	4.88	a	1.664	32.8	j	27.2	c
1-Chloro-1-nitropropane	3.34	b	4.25	b	5.05	b	1.025				
2-Chlorophenol	2.56	a	2.16	a	5.25	a	1.006			40.3	e
4-Chlorophenyl phenyl ether	3.60	a	4.08	a	8.36	a	1.000				
Chloropicrin	0.82	b	1.03	b	6.72	b	1.124				
m-Chlorotoluene	3.08	e	3.28	e			1.021			32.8	e
o-Chlorotoluene	3.20	e	3.42	f			1.012			32.9	h(25)
p-Chlorotoluene	3.08	e	3.3	e			1.020			34.6	h(25)
Dibromochloromethane	1.92	a	2.08	a	8.51	a	1.624				
1,2-Dibromo-3-chloropropane	2.11	b	2.63	b	9.66	b	1.008				
Dibromodifluoromethane					8.58	b	6.701				
Dibutyl phthalate	3.14	a	4.57	a	11.38	a	1.000			33.4	c
1,2-Dichlorobenzene	2.27	a	3.40	a	6.01	a	1.005	40.0	e	37.0	c
1,3-Dichlorobenzene	2.23	a	3.38	a	6.01	a	1.012			33.2	c
1,1-Dichloroethane	1.48	a	1.78	a	4.04	a	1.585			24.8	c
1,2-Dichloroethane	1.15	a	1.48	a	4.04	a	1.206	30.0	e(30)	32.2	c
1,1-Dichloroethene	1.81	a	2.13	a	3.96	a	2.545	37.0	e(23)	24.0	c(15)
trans-1,2-Dichloroethene	1.77	a	2.09	a	3.96	a	1.827	30.0	e	25.0	c
1,2-Dichloropropane	1.71	a	2.28	a	4.62	a	1.162			28.7	c
cis-1,3-Dichloropropene	1.68	a	1.41	a	4.54	a	1.094	23.8	e(27)	31.2	e
trans-1,3-Dichloropropene	1.68	a	1.41	a	4.54	a	1.094				
Dichlorvos	9.57	b	1.40	b	9.03	b	1.000				
Diethyl phthalate	1.84	a	2.35	a	9.08	a	1.000			37.5	c
Dimethyl phthalate	1.63	a	1.61	a	7.94	a	1.000				

Table A-1. (continued)

DNAPL	Log Koc (mL/g)	Ref.	Log Kow	Ref.	Vapor Density (g/L)	Ref.	Relative Vapor Density	Interfacial Liquid Tension (dyn/cm)	Ref.	Surface Tension (dyn/cm)	Ref.
Ethylene dibromide	1.64	b	1.76	b	7.68	b	1.080	36.5	e	38.7	c
Hexachlorobutadiene	3.67	a	4.78	a	10.66	a	1.002				
Hexachlorocyclopentadiene	3.63	a	5.04	a	11.15	a	1.001			37.5	e
Iodomethane	1.36	b	1.69	b	5.80	b	2.943			31.0	e
1-Iodopropane	2.16	b	2.49	b	6.95	b	1.259				
Malathion	2.46	b	2.89	b	13.50	b	1.000				
Methylene chloride	0.94	a	1.30	a	3.47	a	1.897	28.3	j	27.9	c
Nitrobenzene	2.01	a	1.95	a	5.03	a	1.001	25.7	j	43.0	c
Nitroethane			0.18	b	3.07	b	1.033				
1-Nitropropane			0.87	b	3.64	b	1.021				
2-Nitrotoluene			2.30	b	5.61	b	1.001				
3-Nitrotoluene			2.42	b	5.61	b	1.001				
Parathion	3.07	b	3.81	b	11.91	b	1.000				
PCB-1016	4.70	a	5.88	a			1.000				
PCB-1221	2.44	a	2.80	a			1.000				
PCB-1232	2.83	a	3.20	a	9.03	a	1.000				
PCB-1242	3.71	a	4.11	a	10.67	a	1.000				
PCB-1248	5.64	a	6.11	a			1.000				
PCB-1254	5.61	a	6.47	a	13.36	a	1.000				
Pentachloroethane	3.28	b	2.89	b	8.27	b	1.027			34.7	e
1,1,2,2-Tetrabromoethane	2.45	b	2.91	b	14.13	b	1.001				
1,1,2,2-Tetrachloroethane	2.07	a	2.56	a	6.86	a	1.032			36.0	c
Tetrachloroethene	2.42	a	2.60	a	6.78	a	1.088	44.4	e(25)	31.3	c
Thiophene	1.73	b	1.81	b	3.44	b	1.152				
1,2,4-Trichlorobenzene	3.98	a	4.02	a	7.42	a	1.003			39.1	c
1,1,1-Trichloroethane	2.18	a	2.47	a	5.45	a	1.479	45.0	e	25.4	c
1,1,2-Trichloroethane	1.75	a	2.18	a	5.45	a	1.091			34.0	c
Trichloroethene	2.10	a	2.53	a	5.37	a	1.272	34.5	e(24)	29.3	c
1,1,2-Trichlorofluoromethane	2.20	a	2.53	a	5.85	a	4.415			19.0	c
1,2,3-Trichloropropane							1.011				
1,1,2-Trichlorotrifluoroethane	2.59	b	2.57	b	7.66	b	3.062				
Tri-o-cresyl phosphate	3.37	b	5.11	b	15.06	b					

Table A-1. (continued)

DNAPL	Air Diffusion Coefficient (sq.cm./sec)	Ref.	Water Diffusion Coefficient (sq.cm/sec)	Ref.	Estimated Half-life in Soil (days)	Estimated Half-life in Groundwater (days)	RCRA or NJ Action Level Water (mg/L)	RCRA or NJ Action Level Soil (mg/kg)
Aniline	7.50E-02	c(30)					6E-03	1E+02
o-Anisidine					28-180	56-360		
Benzyl alcohol							2E+00 NJ	
Benzyl chloride					0.62-12	0.62-12		
Bis(2-chloroethyl)ether					28-180	56-360	3E-03	5E+01
Bis(2-chloroisopropyl)ether					18-180	36-360	3E-01 NJ	
Bromobenzene								
Bromochloromethane								
Bromodichloromethane							3E-05	5E-01
Bromoethane								
Bromoform					28-180	56-360	7E-01	2E+03
Butyl benzyl phthalate					1-7	2-180	7E+00	2E+04
Carbon disulfide	8.92E-02	h	1.1E-05	h			4E+00	8E+03
Carbon tetrachloride	7.97E-02	i			180-360	7-360	3E-04	5E+00
Chlorobenzene	7.50E-02	c(30)	7.9E-06	h	68-150	136-300	7E-01	2E+03
2-Chloroethyl vinyl ether								
Chloroform	9.90E-02	i	9.1E-06	h	28-180	56-1800	6E-03	1E+02
1-Chloro-1-nitropropane								
2-Chlorophenol							2E-01	4E+02
4-Chlorophenyl phenyl ether								
Chloropicrin								
m-Chlorotoluene								
o-Chlorotoluene								
p-Chlorotoluene								
Dibromochloromethane					28-180	14-180	1E-02 NJ	
1,2-Dibromo-3-chloropropane					28-180	56-360	2E-06 NJ	
Dibromodifluoromethane								
Dibutyl phthalate	4.20E-02	c(25)	4.1E-05	c	2-23	2-23	4E+00	8E+03
1,2-Dichlorobenzene					28-180	56-360	6E-01 NJ	
1,3-Dichlorobenzene					28-180	56-360	6E-01 NJ	
1,1-Dichloroethane	8.90E-02	i			32-154	64-154	7E-02 NJ	
1,2-Dichloroethane	8.90E-02	i			100-180	100-360	5E-03	8E+00
1,1-Dichloroethene	9.11E-02	i	9.5E-06	h	28-180	56-132	7E-03	1E+01
trans-1,2-Dichloroethene	9.11E-02	i	9.5E-06	c			1E-01 NJ	
1,2-Dichloropropane					167-1289	334-2592	5E-04 NJ	
cis-1,3-Dichloropropene					5-11	5-11	1E-02	2E+01
trans-1,3-Dichloropropene					5-11	5-11	1E-02	2E+01
Dichlorvos								
Diethyl phthalate					3-56	6-112	3E+01	6E+04
Dimethyl phthalate					1-7	2-14	7E+00 NJ	

Table A-1. (continued)

DNAPL	Flash Point (deg.C)	Ref.	LEL (%)	Ref.	UEL (%)	Ref.	ACGIH TWA (ppm)	ACGIH STEL (ppm)	NIOSH IDLH (ppm)	Odor Low Threshold (ppm)	Odor High Threshold (ppm)
Aniline	70	b	1.3	b	11	b	Ca 2 (7.6)		Ca 100	5.25E-05	92
o-Anisidine	30	b(oc)					Ca 0.1 (0.50)		Ca 9.8		
Benzyl alcohol	93	a									
Benzyl chloride	60	b	1.1	b			Ca 1 (5.2)		10	4.54E-02	0.3
Bis(2-chloroethyl)ether	55	a									
Bis(2-chloroisopropyl)ether	85	a									
Bromobenzene	51	b									
Bromochloromethane	NC	b					200 (1060)		5000	3.17E+02	317
Bromodichloromethane											
Bromoethane	<-20	b	6.7	b	11.3	b	200 (891)	250 (1110)	3500	2.00E+02	200
Bromoform	NC	a					0.5 (5.2)			5.13E+02	513
Butyl benzyl phthalate	110	a									
Carbon disulfide	-30	a	1.3	a	50	a	10 (31)		500	7.80E-03	7
Carbon tetrachloride	NC	a					Ca 5 (31)		Ca 300	9.54E+00	238
Chlorobenzene	28	a	1.3	a	7.1	a	75 (345)		2400	2.13E-01	61
2-Chloroethyl vinyl ether	16	a									
Chloroform	NC	a					Ca 10 (49)		Ca 1000	5.12E+01	205
1-Chloro-1-nitropropane	62	b					2 (10)		2000		
2-Chlorophenol	64	a								3.59E-03	1
4-Chlorophenyl phenyl ether											
Chloropicrin	detonates	b					0.1 (0.67)		4	8.12E-01	1
m-Chlorotoluene											
o-Chlorotoluene											
p-Chlorotoluene											
Dibromochloromethane	NC	a									
1,2-Dibromo-3-chloropropane	77	b(oc)							Ca	9.98E-03	0
Dibromodifluoromethane	NC	b									
Dibutyl phthalate	157	a	0.5	a	2.5	a	(5)		803		
1,2-Dichlorobenzene	66	a	2.2	a	9.2	a	50 (301) C		1000	2.00E+00	50
1,3-Dichlorobenzene	63	a	2	a	9.2	a					
1,1-Dichloroethane	-6	a	5.6	a	16	a	200 (810)	250 (1010)	4000	1.10E+02	200
1,2-Dichloroethane	13	a	6.2	a	16	a	Ca 10 (4)		Ca 1000	5.93E+00	109
1,1-Dichloroethene	-15	a	6.5	a	15.5	a	Ca 5 (20)	Ca 20 (79)		5.04E+02	1009
trans-1,2-Dichloroethene	2	a	9.7	a	12.8	a	200 (793)		4000	8.47E-02	498
1,2-Dichloropropane	15.6	a	3.4	a	14.5	a	Ca 75 (347)	Ca 110 (508)	2000 ca	2.52E-01	131
cis-1,3-Dichloropropene	35	a	5.3	a	14.5	a	Ca 1 (4.5)				
trans-1,3-Dichloropropene	5.3	a	5.3	a	14.5	a	Ca 1 (4.5)				
Dichlorvos	NC	b					0.1 (0.90)		21		
Diethyl phthalate	140	a	0.7	a			(5)				
Dimethyl phthalate	146	a	1.2	a			(5)		1152		

Table A-1. (continued)

DNAPL	Flash Point (deg.C)	Ref.	LEL (%)	Ref.	UEL (%)	Ref.	ACGIH TWA (ppm)	ACGIH STEL (ppm)	NIOSH IDLH (ppm)	Odor Low Threshold (ppm)	Odor High Threshold (ppm)
Ethylene dibromide	NC	b					Ca		400 ca	1.00E+01	10
Hexachlorobutadiene	NC	a					Ca 0.02 (0.21)			1.13E+00	1
Hexachlorocyclopentadiene	NC	a					0.01 (0.11)			1.34E-01	0
Iodomethane	NC	b					Ca 2 (12)		800 ca		
1-Iodopropane											
Malathion	NC	b					(10)		364	9.99E-01	1
Methylene chloride	NC	c					Ca 50 (174)		5000 ca	1.55E+02	622
Nitrobenzene	88	a	1.8	a			1 (5)		200	4.67E-03	2
Nitroethane	28	b	3.4	b			100 (307)		1000	2.02E+02	202
1-Nitropropane	34	b	2.2	b			25 (91)		2300	2.96E+02	296
2-Nitrotoluene	106	b	2.2	b					200		
3-Nitrotoluene	101	b	1.6	b					200		
Parathion	NC	b					(0.1)		1.6	4.00E-02	0
PCB-1016	NC	a									
PCB-1221	141	a									
PCB-1232	152	a									
PCB-1242	176	a							Ca 0.9		
PCB-1248	193	a									
PCB-1254	222	a							Ca 0.3		
Pentachloroethane											
1,1,2,2-Tetrabromoethane	NC	a					1 (14)				
1,1,2,2-Tetrachloroethane	NC	a					Ca 1 (6.9)			3.06E+00	5
Tetrachloroethene	NC	a	NA		NA		Ca 50 (339)	Ca 200 (1357)	Ca 500	4.65E+00	69
Thiophene	-1.1	a									
1,2,4-Trichlorobenzene	105	a	2.5	a	6.6	a	5 (37) C			3.23E+00	3
1,1,1-Trichloroethane	NC	c					350 (1910)	450 (2460)	1000	9.95E+01	696
1,1,2-Trichloroethane	NC	c					Ca 10 (65)		Ca 500		
Trichloroethene	32.2	a	8	a	10.5	a	Ca 50 (269)	Ca 200 (1070)		2.10E-01	402
1,1,2-Trichlorofluoromethane	NC	a					1000 (5620) C		10000	4.98E+00	208
1,2,3-Trichloropropane	73.3	b	3.2	b	12.6	b	10 (60)		Ca 1000		
1,1,2-Trichlorotrifluoroethane	NC	b					1000 (7670)	1250 (9590)	4500	4.46E+01	134
Tri-o-cresyl phosphate	225	b					(0.1)		2.6		