

Appendix 5. Polychlorinated Biphenyl Masses Measured in Commercially Available Aroclors

Table

5-1. Polychlorinated biphenyl masses measured in commercially available Aroclor mixtures analyzed by AXYS Analytical Services, Ltd.	140
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[Analyzed by AXYS Analytical Services, Ltd., Sidney, British Columbia, Canada; IUPAC, International Union of Pure and Applied Chemistry; ng, nanogram; PCB, polychlorinated biphenyl; <, actual value is less than value shown; e, estimated; --, not applicable]

IUPAC number	Polychlorinated biphenyl congeners						
	Aroclor 1221 (ng/sample)	Aroclor 1232 (ng/sample)	Aroclor 1242 (ng/sample)	Aroclor 1254 (ng/sample)	Aroclor 1260 (ng/sample)	Aroclor 1016 (ng/sample)	Aroclor 1248 (ng/sample)
PCB-1	1,280	686	22.7	0.645	0.992	14	1.76
PCB-2	124	68.4	1.2	<0.289	<0.425	0.711	<0.294
PCB-3	681	409	7.2	<0.289	<0.425	4.26	e0.630
PCB-4 + 10	280	198	146	2.61	2.28	99	16.7
PCB-5 + 8	465	365	280	4.86	3.74	199	38.7
PCB-6	134	88.4	56.2	0.883	e0.875	38.9	6.17
PCB-7 + 9	127	73.9	33.1	<0.518	<0.654	22	2.67
PCB-11	e3.96	2.48	e13.0	e14.1	e13.5	e14.8	e14.1
PCB-12 + 13	60	34.3	9.29	<0.518	<0.654	6.65	0.805
PCB-14	<0.253	<0.356	<0.807	<0.518	<0.654	<0.313	<0.442
PCB-15	147	128	76.8	0.977	<0.710	58.6	10.1
PCB-16 + 32	12.8	119	233	4.98	3.18	171	118
PCB-17	10.3	72.1	147	3.11	1.93	105	61.9
PCB-18	17.1	176	339	7.06	4.05	252	205
PCB-19	2.96	19.4	37.5	0.833	<1.11	27.7	11.9
PCB-20 + 21 + 33	11	114	206	4.09	2.51	151	108
PCB-22	4.96	57.1	101	2.29	1.31	73.7	60.8
PCB-23 + 34	e0.449	0.931	1.54	<0.380	<0.583	1.17	0.614
PCB-24 + 27	3.12	17.4	34.6	0.978	<0.944	24.6	10
PCB-25	2.91	12.7	23.3	0.55	<0.583	17.1	5.53
PCB-26	3.25	27.2	46.3	1.08	e0.753	35	18.9
PCB-28	14.7	150	327	5.98	4.23	237	205
PCB-29	<0.163	1.79	3.42	<0.380	<0.583	2.43	0.523
PCB-30	<0.244	<0.426	<1.23	<0.616	<0.944	<0.457	<0.503
PCB-31	10.5	149	261	8.19	2.49	201	225
PCB-35	<0.106	1.73	2.94	<0.816	<0.463	1.45	<0.790
PCB-36	0.132	e0.534	2.17	<0.747	<0.424	1.99	3
PCB-37	3.22	39	66.6	0.97	<0.463	22.8	33.6
PCB-38	e0.202	1.61	e4.09	<0.816	<0.463	2.85	e7.89
PCB-39	e0.740	<0.397	e1.29	<0.747	<0.424	<0.454	1.26
PCB-40	<1.40	17.6	37.5	5.73	<1.06	18	65.8
PCB-41 + 64 + 68 + 71	2.82	99	212	53.4	2.84	135	413
PCB-42 + 59	e0.984	35	76.7	8.13	<0.940	55.9	122
PCB-43 + 49	1.55	53.9	122	55.4	1.49	92.5	235
PCB-44	2.01	69.3	144	106	2.17	104	306
PCB-45	e0.817	15.9	36.8	1.72	<0.836	28	51.6
PCB-46	<0.747	6.5	12.7	e0.797	<0.836	9.64	19.8
PCB-47 + 48 + 75	1.24	43.9	100	10.9	1.34	74.9	169
PCB-50	<0.635	<0.784	0.668	<0.533	<0.702	0.553	0.744
PCB-51	<0.747	4.56	11.1	e0.853	<0.836	8.89	16.3
PCB-52 + 73	3.24	71.3	154	273	15	116	356
PCB-53	<0.747	15.2	32.4	5.34	<0.836	24.6	53.4
PCB-54	<0.635	<0.784	0.68	<0.533	<0.702	0.587	0.823

Table 5-1. Polychlorinated biphenyl masses measured in commercially available Aroclor mixtures analyzed by AXYS Analytical Services, Ltd.—Continued

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IUPAC number	Polychlorinated biphenyl congeners						
	Aroclor 1221 (ng/sample)	Aroclor 1232 (ng/sample)	Aroclor 1242 (ng/sample)	Aroclor 1254 (ng/sample)	Aroclor 1260 (ng/sample)	Aroclor 1016 (ng/sample)	Aroclor 1248 (ng/sample)
PCB-55	<0.755	e1.51	4.8	<0.804	<0.579	e0.228	3.01
PCB-56 + 60	e1.51	56.2	126	28	1.38	3.11	260
PCB-57	<1.40	<1.39	2.44	<1.47	<1.06	1.49	3.01
PCB-58	<1.40	<1.39	<2.18	<1.47	<1.06	<0.382	<1.40
PCB-61 + 74	e1.04	35.9	83.2	36.8	e1.39	9.12	175
PCB-62 + 65	<0.747	1.14	e1.41	e1.31	e1.22	e0.892	1.75
PCB-63	<0.740	2.88	6.52	1.72	<0.546	e0.927	11.7
PCB-66 + 80	1.49	62.6	133	55.9	7.39	9.59	293
PCB-67	<1.40	5.67	12.8	<1.47	<1.06	2.68	12.4
PCB-69	<0.747	<0.921	e0.978	<0.635	<0.836	0.528	e1.29
PCB-70 + 76	1.68	74.7	157	167	2.48	15	378
PCB-72	<0.837	<1.03	1.05	<0.715	<0.940	e0.463	<0.772
PCB-77	<0.593	5.9	12.8	e12.4	e1.77	<0.310	24.8
PCB-78	<0.593	<1.07	<1.26	e1.51	<0.731	<0.310	0.853
PCB-79	<0.593	<1.07	<1.26	e4.76	<0.731	<0.310	<0.686
PCB-81	<0.593	<1.07	e1.82	e9.39	1.02	<0.310	4.49
PCB-82	<0.849	3.67	10.3	42.4	8.88	<0.464	33.5
PCB-83 + 108	<0.554	1.4	3.19	<33.5	e0.940	<0.236	10.6
PCB-84	<0.482	4.7	12.7	87.3	e6.70	e0.954	44.7
PCB-85 + 120	<0.849	4.83	e16.0	65.6	<1.45	e2.54	54.4
PCB-86 + 97	<0.849	6.59	19.4	131	5.78	<0.464	65.7
PCB-87 + 115 + 116	1.48	8.61	25.4	224	23.3	<0.464	87.8
PCB-88 + 121	<0.568	<0.586	<0.802	<34.9	2.08	e0.453	2.86
PCB-89 + 90 + 101	4.04	12.8	37	405	167	e1.89	121
PCB-91	<0.568	3.84	11	50.1	<0.912	1.73	34.6
PCB-92	e0.549	e1.86	5.32	60	15.8	e0.315	17.6
PCB-93 + 95	3.84	12.9	32.4	352	150	7.92	113
PCB-94	<0.568	<0.586	<0.802	<34.9	<0.912	0.343	1.94
PCB-96	<0.568	e0.949	2.21	<34.9	<0.912	1.44	5.57
PCB-98 + 102	<0.568	e1.89	e3.93	<34.9	e1.48	1.27	11.7
PCB-99	1.05	7.18	21.8	146	e2.70	0.55	75.2
PCB-100	<0.568	<0.586	<0.802	<34.9	<0.912	<0.246	0.803
PCB-103	<0.568	<0.586	e1.05	<34.9	<0.912	0.691	e2.04
PCB-104	<0.417	<0.430	<0.565	<24.6	<0.643	<0.173	<0.445
PCB-105 + 127	<0.615	6.08	21.7	141	6.31	<0.328	77.9
PCB-106 + 118	e0.903	8.71	34.2	338	27.8	<0.350	116
PCB-107 + 109	<0.606	<0.827	2.94	19.4	<1.02	e0.335	8.55
PCB-110	2.12	12.7	38.6	430	69.2	e0.394	142
PCB-111 + 117	<0.849	<1.16	<1.30	e6.01	<1.45	<0.464	1.42
PCB-112	<0.554	<0.571	<0.771	<33.5	<0.877	<0.236	0.707
PCB-113	<0.482	0.78	0.891	<28.7	1.58	<0.203	e1.18
PCB-114	e0.628	<0.817	1.57	8.06	<1.00	<0.320	5.77
PCB-119	<0.465	0.504	1.63	<28.0	<0.733	<0.198	3.55

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PCB-122	<0.599	<0.817	e0.903	3.38	<1.00	<0.320	2.8
PCB-123	<0.597	<0.814	2.95	19.2	11.5	<0.350	8.59
PCB-124	<0.606	<0.827	e1.74	15.5	4.25	<0.324	4.71
PCB-125	<0.849	<1.16	<1.30	e2.73	<1.45	<0.464	e1.93
PCB-126	<0.650	<0.886	<0.938	e0.649	e10.9	<0.334	<0.500
PCB-128	<0.640	<0.701	2.06	76.9	26.7	<0.282	6.4
PCB-129	<0.640	<0.701	0.745	22.3	9.83	<0.282	2.19
PCB-130	<0.640	<0.701	<0.703	23.5	12.5	<0.282	1.97
PCB-131 + 142	<0.635	<0.449	<0.779	5.93	2.4	<0.218	e0.665
PCB-132 + 168	1.31	0.843	2.5	122	134	<0.258	9.52
PCB-133	<0.635	<0.449	<0.779	2.93	4.38	<0.218	<0.523
PCB-134 + 143	<0.635	<0.449	<0.779	17.8	16.8	<0.218	1.52
PCB-135 + 144	e1.27	e0.569	0.893	41.2	90.6	<0.218	2.94
PCB-136	1.54	0.804	0.938	45.1	103	<0.218	3.59
PCB-137	<0.640	<0.701	e1.03	22.2	1.38	<0.239	1.84
PCB-138 + 163 + 164	3.89	3.38	7.9	364	487	<0.239	24.8
PCB-139 + 149	5.36	3.14	3.58	188	458	<0.218	12.7
PCB-140	<0.635	<0.449	<0.779	e2.44	<1.62	<0.218	<0.523
PCB-141	1.12	e0.836	1.21	46.7	126	<0.239	3.4
PCB-145	<0.635	<0.449	<0.779	<1.06	<1.62	<0.218	<0.523
PCB-146	0.662	<0.414	e0.769	30.7	55.3	<0.198	1.9
PCB-147	<0.635	<0.449	<0.779	7.71	e2.13	e0.378	e0.798
PCB-148	<0.635	<0.449	<0.779	<1.06	<1.62	<0.218	<0.523
PCB-150	<0.635	<0.449	<0.779	<1.06	<1.62	<0.218	<0.523
PCB-151	2.83	1.5	<0.970	42.3	199	<0.272	3.28
PCB-152	<0.635	<0.449	<0.779	<1.06	<1.62	<0.218	<0.523
PCB-153	4.3	3.09	3.82	209	484	<0.220	12.4
PCB-154	<0.635	<0.449	<0.779	2.72	1.96	<0.218	<0.523
PCB-155	<0.448	<0.317	<0.552	<0.748	<1.15	<0.155	<0.371
PCB-156	0.96	e0.557	1.37	39.2	23.1	<0.187	3.31
PCB-157	e0.618	<0.570	0.558	8.22	e5.09	<0.190	0.836
PCB-158 + 160	<0.640	<0.701	1.65	53.4	52.5	<0.239	4.22
PCB-159	<0.640	<0.701	<0.598	<0.995	9.76	<0.239	<0.568
PCB-161	<0.585	<0.414	<0.708	<0.958	<1.47	<0.198	<0.475
PCB-162	<0.640	<0.701	<0.598	1.72	e4.85	<0.239	<0.568
PCB-165	<0.585	<0.414	<0.708	<0.958	<1.47	<0.198	<0.475
PCB-166	<0.640	<0.701	<0.598	2.53	e1.08	<0.239	<0.568
PCB-167	0.621	<0.545	e0.461	12.9	9.12	<0.184	1.04
PCB-169	<0.518	<0.567	<0.468	<0.778	<0.729	<0.188	<0.445
PCB-170 + 190	e1.77	e2.26	e1.08	30.8	264	<0.386	1.97
PCB-171	e0.611	<0.477	<0.853	6.27	49.4	<0.322	<0.568
PCB-172 + 192	<0.578	<0.477	<0.853	3.46	30	<0.322	<0.568
PCB-173	<0.578	<0.477	<0.853	e0.721	4.79	<0.322	<0.568

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PCB-174 + 181	<0.570	1.42	<0.878	15.2	216	<0.331	1.05
PCB-175	<0.580	<0.478	<0.876	0.918	9.52	<0.330	<0.582
PCB-176	<0.447	<0.368	<0.671	2.43	28.1	<0.253	<0.446
PCB-177	e0.593	0.73	<0.878	8.88	111	<0.331	e0.715
PCB-178	<0.580	<0.478	<0.876	e2.38	38.8	<0.330	<0.582
PCB-179	0.915	0.72	<0.671	4.93	93.1	<0.253	0.521
PCB-180	2.28	3.36	<0.853	32.4	481	<0.322	1.9
PCB-182 + 187	2.17	1.86	<0.876	12	262	<0.330	1.07
PCB-183	0.984	0.806	<0.878	9.36	128	<0.331	0.688
PCB-184	<0.447	<0.368	<0.671	<0.478	<0.703	<0.253	<0.446
PCB-185	<0.570	<0.470	<0.878	1.35	27	<0.331	<0.583
PCB-186	<0.580	<0.478	<0.876	<0.623	<0.917	<0.330	<0.582
PCB-188	<0.447	<0.368	<0.671	<0.478	<0.703	<0.253	<0.446
PCB-189	0.742	e0.446	<0.710	1.71	6.42	<0.268	<0.472
PCB-191	<0.578	<0.477	<0.853	1.22	10.3	<0.322	<0.568
PCB-193	<0.578	<0.477	<0.853	1.82	28.9	<0.322	<0.568
PCB-194	e1.80	e1.50	<1.80	e1.97	e108	<0.481	<1.20
PCB-195	e1.05	e1.02	<1.80	<1.71	42.2	<0.481	<1.20
PCB-196 + 203	<1.00	e1.24	<1.79	e1.78	125	<0.478	<1.19
PCB-197	<0.709	<0.502	<1.28	<1.21	e4.18	<0.341	<0.847
PCB-198	<1.00	<0.709	<1.79	<1.70	e5.80	<0.478	<1.19
PCB-199	<1.00	e0.916	<1.79	<1.70	104	<0.478	<1.19
PCB-200	<0.709	<0.502	<1.28	<1.21	12.6	<0.341	<0.847
PCB-201	<0.709	<0.502	<1.28	<1.21	11.5	<0.341	<0.847
PCB-202	<0.831	<0.589	<1.44	<1.37	19.2	<0.385	<0.958
PCB-204	<0.709	<0.502	<1.28	<1.21	<0.937	<0.341	<0.847
PCB-205	e0.909	<0.560	<1.38	<1.31	e5.43	<0.369	<0.918
PCB-206	<3.00	<1.82	<1.93	<2.33	32	<1.06	<1.75
PCB-207	<2.61	<1.59	<1.70	<2.06	4.25	<0.933	<1.55
PCB-208	<2.61	<1.59	<1.70	e2.60	9.21	<0.933	<1.55
PCB-209	0.696	<0.473	<0.991	<0.538	4	0.262	<0.553
	Polychlorinated biphenyl homologs						
Total Monochlorobiphenyls	2,085	1,163	31.1	0.645	0.992	19.0	1.76
Total Dichlorobiphenyls	1,213	890	601	9.33	6.02	424	75.1
Total Trichlorobiphenyls	97.0	959	1,832	40.11	19.7	1,328	1,069
Total Tetrachlorobiphenyls	14.0	677	1,480	809	35.1	710	2,977
Total Pentachlorobiphenyls	12.5	95.3	285	2,538	493	13.9	1,053
Total Hexachlorobiphenyls	22.6	12.8	27.2	1,389	2,307	--	97.9
Total Heptachlorobiphenyls	7.09	8.9	--	133	1,788	--	7.20
Total Octachlorobiphenyls	--	--	--	--	315	--	--
Total Nonachlorobiphenyls	--	--	--	--	45.5	--	--
Decachlorobiphenyls	0.696	--	--	--	4.00	0.262	--