



Trusted Technical Expertise.



Analysis of 209 PCB Congeners

Columbia Analytical Services' specialty laboratory located in Houston, TX is dedicated to high resolution gas chromatography/high resolution mass spectrometry (HRGC/HRMS) testing.



Columbia Analytical has experience with handling a wide variety of sample matrices including drinking water, wastewater, sediment, soil, animal and marine tissue, solid waste, PUF traps, XAD resin, household dust, wipe samples, paper products, food products, and animal feed.

All 209 PCB congeners can be reported using HRGC/HRMS by EPA methods 1668A, 1668B, and 1668C. It should be noted that some congeners co-elute and will be reported as a summation of the co-eluting compounds. If only the WHO-12 dioxin-like PCB list is required, it will be reported with the Toxicity Equivalence Quotient (TEQ) which relates the toxicity of the congeners to 2,3,7,8-Tetrachlorodibenzo-*p*-Dioxin (TCDD). The WHO-12 TEQ can also be requested with the 209 congeners.

In addition to the common 209 and WHO-12 reporting lists, custom reporting lists of PCB congeners can be created to meet client requirements.

In addition to EPA methods, Columbia Analytical has the expertise and innovation to develop and modify methods to suit clients' analytical needs. For example, since no EPA method exists for high resolution testing of PCBs in air, we have modified the California Air Resources Board (CARB) method 428 for HRGC/HRMS testing of all 209 PCB congeners in ambient air.

Coplanar PCBs	Congener Number	Estimated Detection Limits (EDLs)				Method Reporting Limits (MRLs)			
		Water (pg/L)	Soil (ng/Kg)	Tissue (ng/Kg)	Air (pg)	Water (pg/L)	Soil (ng/Kg)	Tissue (ng/Kg)	Air (pg)
3,4,4',5-TCB	PCB 81	8.06	1.46	1.19	10.7	2500	500	500	2500
3,3',4,4'-TCB	PCB 77	9.04	1.55	1.25	11.3	2500	500	500	2500
2',3,4,4',5-PeCB	PCB 123	10.7	1.56	1.22	7.68	2500	500	500	2500
2,3',4,4',5-PeCB	PCB118	9.94	1.49	1.13	8.13	2500	500	500	2500
2,3,4,4',5-PeCB	PCB 114	10.6	1.55	1.21	8.24	2500	500	500	2500
2,3,3',4,4'-PeCB	PCB 105	11.1	1.60	1.25	7.49	1000	200	200	1000
3,3',4,4',5-PeCB	PCB 126	10.9	1.58	1.23	9.30	2500	500	500	2500
2,3',4,4',5,5'-HxCB	PCB 167	8.22	1.31	.938	8.44	2500	500	500	2500
2,3,3',4,4',5-HxCB/ 2,3,3',4,4',5'-HxCB	PCB 156 + PCB 157	12.5	1.87	1.35	12.4	2500	500	500	2500
3,3',4,4',5,5'-HxCB	PCB 169	11.1	1.47	1.06	10.5	2500	500	500	2500
2,3,3',4,4',5,5'-HpCB	PCB 189	14.0	1.85	1.27	12.2	2500	500	500	2500

*EDLs and MRLs for 209 PCB congeners available upon request.

To learn more about our high resolution laboratory and to watch our video laboratory tour, please visit <http://www.caslab.com/Houston-Laboratory>.



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