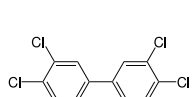


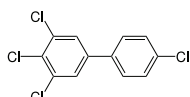


SERVICES SUMMARY 1668A/1668C

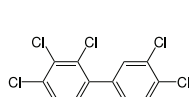
TESTING FOR 209 POLYCHLORINATED BIPHENYLS (PCBS) BY HIGH RESOLUTION GC/MS: EPA METHOD 1668A OR 1668C



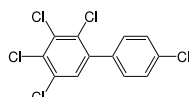
PCB 77



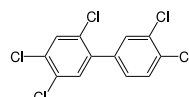
PCB 81



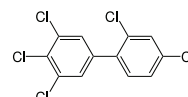
PCB 105



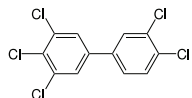
PCB 114



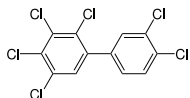
PCB 118



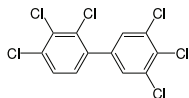
PCB 123



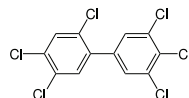
PCB 126



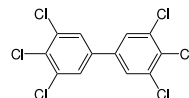
PCB 156



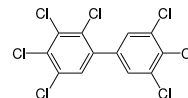
PCB 157



PCB 167



PCB 169



PCB 189

METHOD	CONGENERS	DESCRIPTION	MATRIX	RL/PQL ¹	TAT ²	CONTAINER	PRESERVATION*	HOLD TIMES ³	MIN VOLUME
8290A	2,3,7,8 TCDD Only	WHO List 12 PCB congeners (I.E. Dioxin-like PCBs}	Water	50-300 pg/L	10 Days	Two 1-Liter (AG)	Refrigerate <6° C Unpreserved	30 Days	1 L
			Solid	5-30 ng/Kg		One 4-8 oz (AG)	Freeze		25 g
			Tissues	5-30 ng/Kg		Aluminum Foil			25 g
8290A	2,3,7,8 TCDD Only	209 PCB congeners and Totals All matrices	Water	0.25-2.5 ng/L	10 Days	Two 1-Liter (AG)	Refrigerate <6° C Unpreserved	30 Days	1 L
			Solid	25-250 ng/Kg		One 4-8 oz (AG)	Freeze		25 g
			Tissues	25-250 ng/Kg		Aluminum Foil			25 g
1668- TMDL	PCB 209 Congeners	Total Maximum Daily Load 209 PCB congeners and Totals (E.g. TMDL / DRBC / VADEQ / Impaired Waters}	Water	<0.01-0.1 ng/L	15 Days	Two 2-Liter (AG)	Refrigerate <6° C Unpreserved	Up to 1 year	2 L
NOTES									
1. RLs/PQLs subject to change, please contact lab for current limits.				3. Some State or Federal agencies may have alternative hold times and those must be met.					
2. Standard TAT is measured by business days – rush/customized TAT may be available by prearrangement.				*All methods require samples to remain in darkness or out of direct contact with sunlight.					

METHOD OVERVIEW Method 1668 is used for the determination of 209 polychlorinated biphenyls (PCBs) in a variety of matrices using isotope dilution by Gas Chromatography/High-resolution Mass Spectrometry (GC/HRMS). In order to achieve low detection limits, sample extracts must undergo an extensive cleanup process prior to analysis in order to remove interfering compounds. The method is for use in EPA's monitoring efforts associated with RCRA, CERCLA, and CWA. This method is also supported by the food, feed and supplement industries to monitor products made for human or animal consumption. Detection limits achieved will vary in accordance to the sample matrix.

METHOD VARIATIONS

1668A/C: Total PCB homologous (e.g. Total Mono-CB, Total Di-CB, Total Tri-CB, etc) and all 209 congeners can be determined using Method 1668, however, some congeners cannot be separated and are reported as co-eluting compounds.

WHO: Also known as "Dioxin-like PCBs," the World Health Organization (WHO) has identified twelve (12) PCB congeners as the most toxic PCBs. They are heavily monitored through-out many food/feed industries and used for EPA risk assessment.

TMDL: Total Maximum Daily Load expresses the maximum amount of a pollutant that a water body can receive and still attain quality standards. Utilizing a limit of 300 ng/L for total PCB content, this approach typically meets CWA regulatory program limits for impaired waters.

Trackback: PCB Homologues (Totals only) are analyzed and reported using a modified approach of this High Resolution GC/MS method.

METHOD QAQC:

- Labeled internal standard recoveries are continuously monitored to ensure data quality and method compliance.
- Lab Blanks – 1 per 20 samples.

CERTIFICATIONS:

Department of Defense (DoD) • NELAC
Multiple States • ISO/IEC 17025: 2017

INSTRUMENTATION:

3 – GC/HRMS – Autospec Ultima High Resolution Mass Spectrometers
3 – GC/HRMS – Autospec Premier High Resolution Mass Spectrometers

SAMPLE MATRICES:

Drinking Water • Waste Water • Soil/Sediment
Hazardous Waste • Food/Animal Feed • Oil
Nutraceutical Products • Industrial Products
Agricultural Products • Biological Tissue