



# rpc

SCIENCE & ENGINEERING

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## Dioxin & Furan Analysis

**D**ioxins and furans are the common terms assigned to a group of 210 chlorinated compounds known as polychlorinated dibenzo-p-dioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs). They are formed as by-products of certain chemical processes and from the inefficient combustion of organic materials. These compounds are extremely stable and persist in the environment for many years. They are strongly lipophilic and bioaccumulate in fatty tissues as they are passed up the food chain. Because PCDD/Fs are believed to cause serious health effects, including cancer and birth defects, at very low levels in humans, low exposure guidelines require trace level analysis.

The dioxin laboratory at RPC offers dioxin, furan and dioxin-like PCB (DL-PCB) analysis for the monitoring of food, feed, tissue, soil, sediment, ash, water, effluent, ambient air and vegetation, as well as industrial products.

### Analysis

Analysis is by high resolution gas chromatography/high resolution mass spectrometry (HRGC/HRMS), based on the following reference methods:

- US EPA Method 1613B
- US EPA Method 8290A
- Environment Canada EPS 1/RM/19
- US EPA Method 1668 for Dioxin-like PCBs

Detection limits are in the sub parts per trillion range in solids and sub parts per quadrillion in water samples.

### Qualifications

RPC's Analytical Services laboratories hold accreditation with the Standards Council of Canada (SCC). The laboratory accreditation program is based on the continued demonstration of performance as evaluated through interlaboratory proficiency testing and laboratory site audits.

RPC's quality management system is registered to ISO 9001.

In addition, the laboratory's proficiency is demonstrated through successful participation in published interlaboratory studies with organizations including the Norwegian Institute of Public Health (NIPH), Orebro University (Sweden), the Ontario Ministry of the Environment (MOE), the Environmental Technology Centre (ETC) of Environment Canada, and the US National Institute of Standards and Technology (NIST).

### Experience

RPC's high resolution mass spectrometry (HRMS) laboratory has been serving clients since 1992 and has built a reputation of performing dioxin analysis at the high level of quality required by clients and regulatory agencies. Service is personalized, reliable, confidential, and on-time. Clients include aquaculture growers, feed suppliers, meat and dairy producers, environmental consultants, regulatory authorities, industry and testing laboratories from around the world.

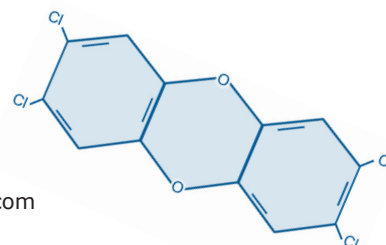
### Reporting

Results are reported on a individual congener as well as a toxic equivalent (TEQ) basis. Final reports are available by request in English, French or Spanish and can be customized to client specifications. Electronic data in spreadsheet format can also be provided.

### Contact

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