

TECHNICAL BULLETIN

Testing for Polychlorinated Dibenzo-p-Dioxins and Dibenzofurans from Stationary Sources by EPA Method 23

Method Overview

Method 23 provides procedures for the sampling, detection and quantitative measurement of polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans (tetra through octa) in stack gas samples collected with probe and sampling train, at stationary sources. The analysis calls for the use of high-resolution gas chromatography/ high-resolution mass spectrometry (HRGCMS) on purified sample extracts. Method 23 is normally utilized in support of the Clean Air Act (CAA), by cement kilns, industrial boilers/furnaces, or medical, municipal and hazardous waste incinerators seeking compliance with Title V and BIF regulations.

Method Detection Limits

Actual detection limits achieved by method 23 will vary according to the sample matrix, run time, and by homologue group. For detailed information on the complete analyte list and current MDL studies please review the Method Detection Limits tables on the opposite side of this page. The reporting limits for the method are as indicated below:

Homologue Group	Air (pg/sample)
Tetra	10
Penta, Hepta, Hexa	50
Octa	100

Method Specifications

Holding Times:	Extracted within 30 days Analyzed within 45 days
Method Turnaround (TAT):	28 Calendar Days
Method QAQC:	- Labeled internal standard recoveries are routinely monitored to insure data quality and method compliance. - Lab Blanks – 1 per 20 samples.

Method Sampling Guide

The complexity of this method is such that only experienced, trained personnel should perform sampling operations. A sample is withdrawn from the gas stream isokinetically and collected in the sample probe, on a glass fiber filter, and on a packed column of adsorbent material (XAD2 resin in sorbent trap). Pace Analytical will provide appropriate sample containers and the prespiked sorbent trap upon request. The trap and all rinses should be carefully packed in accordance with the method to avoid contamination or breakage and shipped via overnight carrier, chilled to 4°C (39°F). Include completed chain of custody document.