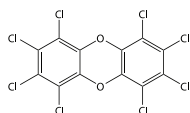
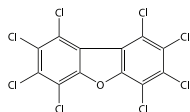


SERVICES SUMMARY Method 23

Testing for Polychlorinated Dibenzo-p-Dioxins and Dibenzofurans by High Resolution GC/MS: EPA Method 23



Polychlorinated Dibenzo-p-dioxin



Polychlorinated Dibenzofuran

Method Overview

Method 23 provides procedures for the sampling, detection and quantitative measurement of polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans (tetra - octa) in stack gas samples collected at stationary sources. The analysis calls for the use of Gas Chromatography/High-resolution Mass Spectrometry (GC/HRMS) on purified sample extracts. Method 23 is utilized under the Clean Air Act (CAA), and can be used for emission monitoring from furnaces/kilns, commercial/industrial institutional boilers and process heaters, hospital/medical incinerators, sewage sludge incinerators (SSI), hazardous waste incinerators (HWI), or commercial/industrial solid waste incinerators (CISWI) seeking compliance with Title V for NESHAP, NSPS.

Application

Each sample should contain the following: one XAD trap, one filter, and any additional containers for various solvent rinses. A sample is withdrawn from the emission stream isokinetically through a sample probe, onto a glass fiber filter and an XAD-II resin adsorbent trap, a set of glass impingers is used for moisture content. PCDD's and PCDF's are extracted from the filter media, XAD adsorbent and solvent rinsates. The solvent rinse is typically combined with the XAD material and filter during the extraction at the laboratory. Optionally, the analysis of the solvent rinse can be conducted separately upon request. Compliance emissions tests will require three test runs, plus a field sampling train blank. For a complete list of reportable analytes and current limits, please contact Pace Analytical®.

METHOD	CONGENERS	DESCRIPTION	MATRIX	RL/PQL ¹	TAT ²	CONTAINER	PRESERVATION*	HOLD TIMES ³	MIN VOLUME
Method 23	PCDDs/PCDFs	Stack Testing 17 Dioxin/Furan congeners and Totals	AIR	0.01-0.1 ng/S	10 Days	XAD-II	Refrigerate <6° C	30 Days	per method
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.				

Sampling Media

- One pre-spiked XAD sorbent trap
- Amber glassware for solvent rinsate
- Pre-cleaned, quartz filter (must specify size)

Pace Analytical will provide appropriate media upon request. XAD trap may differ than shown.

Method QAQC:

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

Certifications:

A2LA • Multiple States • ISO/IEC 17025: 2017
STAC • TNI FSMO

28/15 ID Ground Glass Female Fitting
28/15 OD Ground Glass Male Fitting
(tapered fitting 28mm at widest point and 15mm at narrow point)

Media Advantages
Pre-assembled
Pre-certified clead XAD Resin
Pre-spiked field surrogates

1/4" Reflux Connection

Trap Specifications
Dimensions: 11" x 3.5"
Shipping Weight: .75 lbs
Sample Volume: ~100 cubic ft. (3 hour test run)
Flow Rate: 30 cubic feet/hour
Methods: 5 - Sampling Train, 23 - Analytical (Dioxin/Furan Analysis)

Instrumentation:

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

Pace Analytical Field Services Division is accredited for stack emission sampling and on-site process monitoring. Please contact your local sales executive for more information on our Stack Testing services. Pace Analytical recommends using proper PPE and following site specific safety requirements. Trained personnel should perform sampling operations.

