

TECHNICAL BULLETIN

Testing for Polychlorinated Dibenzo-p-Dioxins and Dibenzofurans by HR/GC/MS EPA Method 1613B

Method Overview

Method 1613B provides for the detection and quantitative measurement of (7) polychlorinated dibenzo-p-dioxins and (10) polychlorinated dibenzofurans (tetra through octa) in a variety of environmental matrices including: solid, aqueous, ash, sludge and biota. The analysis calls for the use of high-resolution gas chromatography/ high-resolution mass spectrometry (HRGCMS) on purified sample extracts and provides an option for reporting the analytical results in terms of the toxic equivalency factors. Method 1613B is adaptable to reporting specific analyte concentrations and it is the EPA method of choice for SDWA compliance testing and to meet the effluent monitoring requirements of the Pulp and Paper Industry.

Method Detection Limits

Actual detection limits achieved by method 1613B will vary according to the sample matrix and by homologue group but to be valid, must meet the requirements of the method. For detailed information on the complete analyte list and current MDL studies please review the Method Detection Limits tables available upon request from Pace Analytical. Reporting Limits are:

Homologue Group	Soil (pg/g)	Water (pg/L)
Tetra	1	10
Penta, Hepta, Hexa	5	50
Octa	10	100

Method Specifications

Holding Times:	No extraction requirements Analyzed within 40 days of extraction
Method Turnaround (TAT):	21 Calendar Days
Method QAQC:	- Labeled internal standard recoveries are continuously monitored to insure data quality and method compliance. - Lab Blanks – 1 per 20 samples.

Method Sampling Guide

Aqueous samples for 1613B analysis should be collected in (2) 1 liter amber glass containers with teflon (PTFE) lined lids. If residual chlorine is present preserve with 80g Sodium Thiosulfate. Solid samples should be collected in 4oz glass jars with teflon lined caps (50gm minimum sample). Pace Analytical will provide appropriate sample containers upon request. Ship samples via overnight carrier, chilled to 4°C (39°F). Include completed chain of custody document.