

TECHNICAL BULLETIN

Testing for Pesticides & Polychlorinated Biphenyls in Ambient Air Analyzed by GC/ECD EPA Method TO-4A

Method Overview

Method TO-4A provides procedures for the sampling, detection and quantitative measurement of pesticides and polychlorinated biphenyls (PCBs) in ambient air samples collected by a high volume sampler equipped with a quartz-fiber filter and polyurethane foam (PUF) cartridge. The TO-4A list includes 21 chlorinated pesticides and 7 PCB Aroclors. Optionally, TO-4 PCB samples can be analyzed by EPA Method 1668 to achieve significantly lower detection limits at the congener level. Method TO-4A is normally utilized in a perimeter or fence line monitoring mode around incinerators, chemical production facilities or Superfund sites, in support of the Clean Air Act (CAA).

Method Detection & Reporting Limits

Actual detection limits achieved by Method TO-4A will vary according to the volume of air brought through the sample media. Method TO-4A recommends that 300 cubic meters of air be sampled, this is normally accomplished over a 24 hour period. Pace will supply results in micrograms per sample with a reporting limit of .1 micrograms per compound.

Method Specifications

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| Holding Times: | <ul style="list-style-type: none">- Extracted within 7 days of collection.- Analyzed within 40 days of extraction. |
| Method Turnaround (TAT): | <ul style="list-style-type: none">- 10 working days. |
| Method QAQC: | <ul style="list-style-type: none">- Initial calibration as specified by the method.- Surrogate recoveries continuously monitored.- Lab Blank/Batch (maximum 20 samples). |

Method Sampling Guide

The complexity of this method is such that only experienced, trained personnel should perform sampling operations. Sampling includes calibration of the high volume sampler, installation of the PUF and filter and subsequent operation of the sampler, usually for 24 hours, to sample 300m³ ambient air. Pace Analytical will provide appropriate sampling filter and the PUF cartridge upon request. The PUF cartridge and glass housing 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.