



# GC/MS EPA METHOD TO-15

## TESTING FOR VOLATILE ORGANIC COMPOUNDS IN AIR COLLECTED IN CANISTERS AND ANALYZED BY GC/MS

### Method Overview

Method TO-15 provides procedures for the sampling, detection, and quantitative measurement of Volatile Organic compounds (VOCs) in ambient air and vapor intrusion sampling events. TO-15 is one of the EPA's Compendium of Methods for the Determination of Toxic Organic (TO) Compounds in ambient air. This method is designed for samples collected in Summa® canisters and analyzed by gas chromatography/mass spectrometry (GCMS). The method compound list includes ~100 VOCs which are also identified as hazardous air pollutants (HAPs) in Title III of the Clean Air Act.

### METHOD DETECTION AND REPORTING LIMITS

Reporting limits achieved by Method TO-15 are typically between 0.01 and 0.2ppbv for target compounds utilizing SIM (selective ion monitoring) or full scan mass spectroscopy techniques. Actual detection limits may vary slightly due to the volume of air brought into the sample canister or due to the physical properties and performance of compounds utilizing method techniques and equipment. See Pace® Analytical TO-15 compound lists for specific compounds and reporting limits available.

### METHOD SPECIFICATIONS

**Method Holding Time:** Analyzed within 30 days of collection unless otherwise specified

**Method Turnaround Time:** 10 working days. Rush TATs available.

#### Method QA/QC:

- ICAL performed as specified by the method.
- Continuous calibration and Mass spectral performance monitored at least every 24 hours.
- Lab Blank/Control performed per maximum 20 samples.
- Internal standard and surrogate recoveries monitored continuously.
- Equipment cleaned and certified per project needs.

### METHOD SAMPLING GUIDE

Samples for analysis by Method TO-15 can be gathered as grab samples, at a specified flow rate (100-200cc/min), or as time weighted events (1-24hrs) utilizing a pneumatic flow controller. Detailed sampling instructions and equipment are available for both procedures. Pace® Analytical Summa® canisters are leak checked, cleaned, tested for contamination, evacuated, and certified for reuse in accordance with method QC requirements prior to shipment. Upon completion of sampling, ship canisters to the laboratory via overnight carrier using the original protective carton and include all critical sampling information on canister tag and completed chain of custody document.