

HUMAN HEALTH

ENVIRONMENTAL HEALTH

ONE-STOP SOLUTION FOR EPA METHOD 325

On the fence about how to comply with EPA Method 325? Look no further – PerkinElmer can help

The U.S. Environmental Protection Agency recently finalized changes to its performance review standards, Method 325 A/B, which is raising concerns for petroleum refineries across the United States. As of year-end 2017, Federal Regulation CFR 40, part 60 and 63, will require all U.S. refineries to establish fence line monitoring of volatile organic compounds (VOCs). While benzene is the primary target of the new regulation, Method 325 also establishes the approved methodology for tracing other compounds at the fence line, including 1,3-butadiene, toluene, ethylbenzene, xylenes.

A Trusted Resource

Historically, the EPA has looked to PerkinElmer to advise and provide scientific resources to assist them in the development of new methods that enable compliance. In fact, we've been working with the EPA for more than three decades, which includes our collaboration in developing PAMS in 1991, the Clean Air Act in 1992 and now Method 325. It was only natural that the EPA came to us for technical support.

Our Complete Solution

From field sampling to data management, PerkinElmer has exactly what oil refineries need for Method 325 compliance. The EPA actually used our TurboMatrix™ ATD to develop this method. Our solution includes sample shelters, passive sorbent tubes, our combination of the award winning TurboMatrix™ ATD and Clarus® SQ 8 GC/MS, as well as installation, system training, and world-class support and services.

FAST FACTS

- New EPA Method 325 A/B officially announced in September 2015
- EPA Method 325A addresses sampling procedure and 325B defines analysis procedures
- EPA used PerkinElmer's Thermal Desorber and expertise in developing Method 325
- U.S. Petroleum Refineries required to comply by end of 2017
- Complete solution available from PerkinElmer



When you combine our TurboMatrix ATD with the Clarus SQ 8 GC/MS you get a single solution to what can be a complex workflow.

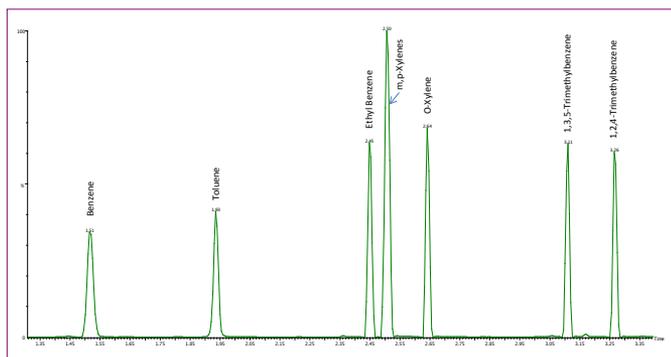
TurboMatrix™ ATD

- Fully meets EPA 325 criteria, and more
- Highly cost effective technique for sampling and analysis of VOCs and SVOCs
- Compact size and automated desorption and tube cleaning process saves time and money
- The latest, most sophisticated ATD from PerkinElmer, who produced the first automated thermal desorption instrument

Clarus® SQ 8 GC/MS

- Among the world's most sensitive MS detectors delivering exceptional sensitivity
- A robust detector built for reliability and longevity
- Includes a Marathon™ Filament that delivers long life enhancing system uptime, which improves productivity
- Fastest heat-up and cool-down oven in conventional GC allowing more samples to be analyzed
- TurboMass™ GC/MS software makes environmental reporting easy and comprehensive

HIGHLIGHTS



Standard chromatogram optimized for speed without losing accuracy. Runtime is under four minutes, enhancing productivity.

You can have a simple solution to a complex workflow:

- One-stop shopping for EPA Method 325 compliance
- Sample tubes used by the EPA with same optimized adsorbent for the most accurate result
- Bar-coded tubes for enhanced tracking and traceability
- Fully automated TurboMatrix 650 ATD sample-tube handling and conditioning system
- Dependable, flexible and intuitive Clarus SQ 8 GC/MS, offering the fastest throughput time in the industry for TD-GC/MS analysis

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Samples per site (depends on size of refinery)

| Refinery size | Samples Required for Refinery (field) | | |
|-----------------------------|---------------------------------------|----------------|-------------|
| | <750 acres | 750-1500 acres | >1500 acres |
| Primary sampling | 12 | 18 | 24 |
| Duplicates per 10 samples | 2 | 3 | 4 |
| Near Source | ~3 | ~6 | ~9 |
| Field Blanks per 10 samples | 2 | 3 | 4 |
| Sample total at day 14 | ~16 | ~24 | ~32 |
| Sample total at year end | ~416 | ~624 | ~832 |
| | Additional Tubes | | |
| Calibration tubes | 10 | 10 | 10 |
| Laboratory blanks | 2 | 2 | 2 |
| Continuing Calibration (QC) | 14 | 14 | 14 |

Continuous Sampling, Analysis, Reporting and Results

As petroleum and refining experts and suppliers, you are a vital asset to the nation. So why not focus on what you do best and allow a world-class leader in environmental analysis to handle the details on your Method 325 response? Because of Method 325's complex requirements for continuous passive air sampling, ongoing laboratory analysis, and detailed reporting to establish a traceable audit trail, you can turn to PerkinElmer, a global leader for industrial solutions.

The PerkinElmer Difference

By engaging with us, you gain the collective experience and expertise of a global leader in detection and environmental monitoring solutions. We have the expert guidance, technologies and services you need. PerkinElmer's leading technology combined with our deep-seated knowledge of EPA requirements makes us the logical choice to tailor a total air monitoring solution that fits your company's specific requirements.

Our services include thousands of certified technicians in the field and operations in more than 120 countries across the globe. Whether it is research and development, creating standard solutions or unique methods and standards, you can count on us to help solve current and emerging environmental challenges. PerkinElmer is ready to work with you to develop a comprehensive Method 325 compliance plan.

To learn more about PerkinElmer's environmental solutions, go to www.perkinelmer.com or contact your local sales representative.



For a complete listing of our global offices, visit www.perkinelmer.com/ContactUs

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