A SMARTER, SAFER FUTURE FOR EPA 8270 TESTING

TAKING REDUCED VOLUME TECHNOLOGY TO THE NEXT LEVEL

THE CHALLENGE OUR INDUSTRY IS FACING

In April 2024, the U.S. Environmental Protection Agency (EPA) finalized a rule under the Toxic Substances Control Act (TSCA) banning most uses of methylene chloride due to serious health risks, including links to several cancers, neurotoxicity, and liver damage.

While environmental laboratories are allowed to continue using the solvent, they must now operate under much stricter exposure limits. At the same time, the chemical's broader market demand is expected to decline, which may reduce production and drive significant supply shortages and price increases over time.

For customers who rely on environmental testing, this creates two important questions:

- How can testing continue safely and reliably?
- How can laboratories control costs and maintain efficiency in a changing market?

The answer lies in reimagining EPA Method 8270 using next-generation technology.

EPA 8270 REIMAGINED

Reducing Solvent Use Without Sacrificing Performance

The introduction of triple-quadrupole GC/MS/MS instrumentation enables the use of next-generation Reduced Volume Technology for EPA 8270 analysis.

The enhanced sensitivity and selectivity of the triple-quadrupole platform will allow Pace® to confidently analyze smaller sample volumes while using significantly less methylene chloride, without compromising analytical performance. By leveraging the capabilities of this technology, Pace® can reduce solvent consumption while maintaining the data quality and reliability required for semi-volatile compound analysis.

This modernized workflow delivers several meaningful benefits for our customers.

One Streamlined Laboratory Process

Historically, laboratories needed multiple extraction steps and separate analyses.

Traditional Workflow

- Two 100+ ml sample containers
- Multiple incremental extractions
- Approximately 40 mL of methylene chloride used

New Next-Generation Workflow

- Two 40 ml sample vials
- One extraction
- Only 4 mL of methylene chloride required

Customer Benefits

- Faster laboratory processing
- Reduced chemical use
- More efficient testing workflow

Faster Sampling. Fewer Bottles. Simpler Logistics.

Reduced sample volumes improve both field efficiency and sample management.

Previously

- Multiple 1-liter containers required
- Slow wells could take 20+ minutes to fill one bottle
- Multiple containers to handle, label, and track

Now

- Sampling uses compact 40 mL vials
- Faster collection with smaller containers
- Reduced cooler space and shipping weight
- Less time spent waiting and handling equipment

Customer Benefits

- Faster field sampling
- Reduced labor time
- Improved project efficiency
- Easier sample management
- Lower shipping complexity
- Less field equipment to handle

Future-Proof Testing

Because regulatory changes may impact the availability of methylene chloride, laboratories that rely heavily on this solvent could face supply challenges. Our reduced-solvent approach helps protect our customers by minimizing dependence on this material and supporting more resilient testing operations.

Customer Benefits

- More sustainable testing methods
- Reduced dependence on restricted chemicals
- Greater long-term operational flexibility

Advanced Technology Behind the Method

This new workflow is enabled by triple-quadrupole GC/MS/MS (GC-QQQ) instrumentation.

GC-MS/MS delivers the best of both analytical approaches:

- High selectivity of SIM analysis
- Comprehensive detection capability of full scan

This allows Pace® to maintain excellent analytical performance while dramatically reducing solvent usage.

A Smarter, Safer Future for EPA 8270 Testing

At Pace®, we're taking EPA 8270 to the next level—making it simpler in the field, faster in the lab, and more efficient from start to finish. By combining advanced GC/MS/MS technology with innovative reduced-volume methods, we significantly reduce solvent use while streamlining sampling, shipping, and laboratory workflows.

The result is a smarter, more sustainable approach that reduces complexity and improves overall efficiency—without ever compromising the high-quality, reliable data you depend on for environmental compliance.

PACE® WORKS IN PARTNERSHIP WITH YOU

Pace® makes the world a safer, healthier place. We partner with clients to provide the service, science, and laboratory data needed to make critical decisions that benefit us all. Through a nationwide laboratory network, Pace® advances the science of businesses, industries, consulting firms, government agencies, and others. More at **PACELABS.com.**