

Agilent water analysis solution Volatile Organic Compounds Analysis in Water

Environmental



Due to an increase in the frequency of water pollution, requirements for onsite water quality monitoring has increased. With new high performance transportable instruments, such as the Agilent 5975T GC/MSD, onsite analysis of organic contaminants in drinking water has become reasonable. An ultra fast method has been developed based on the Low Thermal Mass (LMT) Agilent 5975T GC/MSD using Headspace. A new deconvolution reporting library was created and applied by using Agilent's DRS software to reduce the identification time for unknown compounds.

Key Benefits

- On-site measurement with the Agilent transportable 5975T GC/MS
- Ultra-fast method developed for VOCs in water
- Simple, quick sample preparation
- Rapid on-site screening and analysis
- Agilent Deconvolution Reporting Software (DRS)

Description of Industry Application

VOC's in drinking water are hazardous to human health. Hundreds of VOCs have been produced for use in a variety of products, including gasoline, dry cleaning solvents, and degreasing agents. When these products are improperly stored or disposed, or when a spill occurs, VOCs can contaminate ground water and drinking water supplies. Therefore, it is critically important to monitor VOCs and give fast quantitative and qualitative results in the event of an emergency. However, for most mobile labs the biggest challenge is to provide fast monitoring results without sacrificing accuracy.

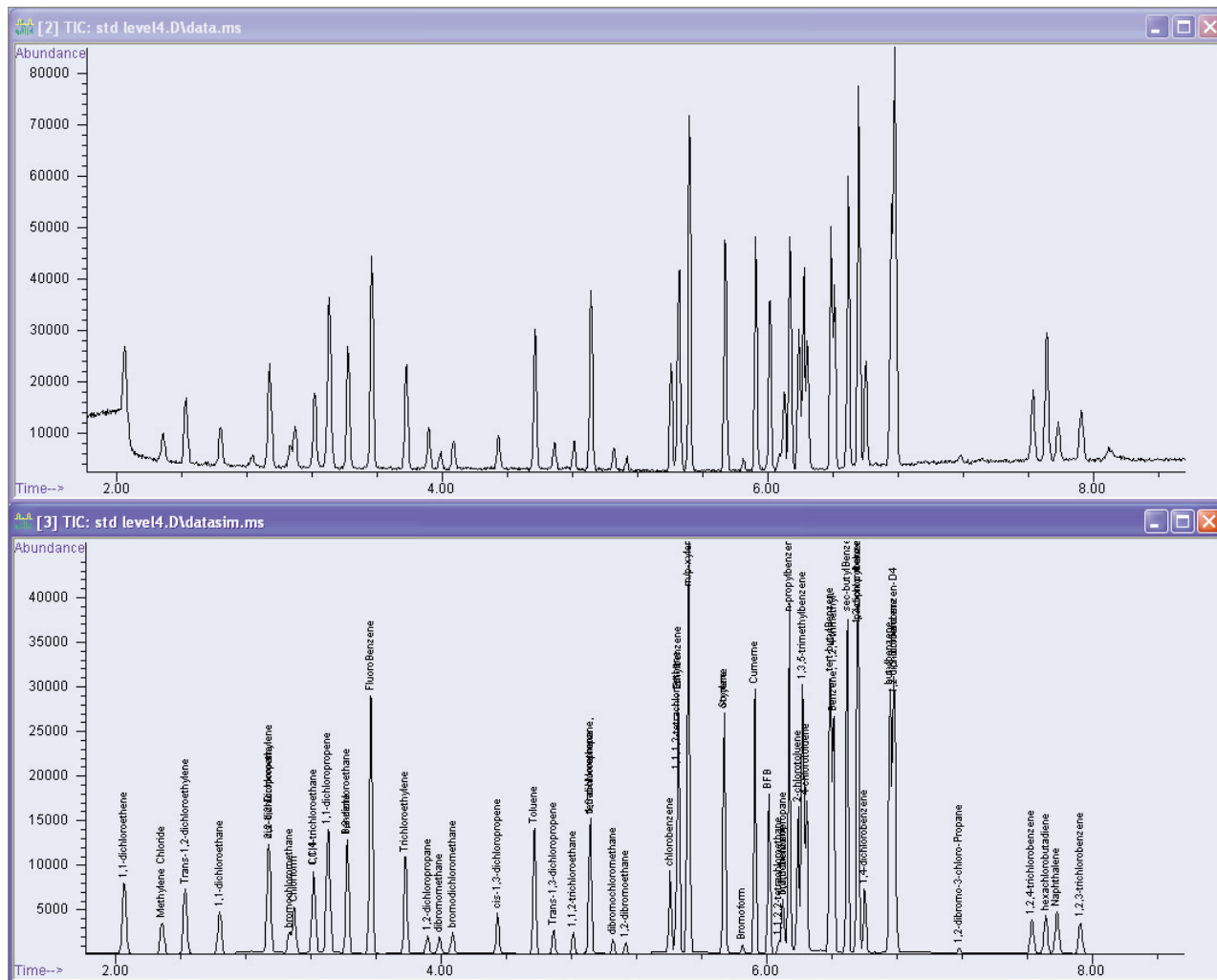
An ultra fast method was developed for the Agilent 5975T LTM GC/MSD using Headspace for environmental mobile labs. The cycle time required per sample is reduced by 40% compared to previous work in traditional labs. And data analysis time is also reduced with the use of DRS. This application measured all compounds specified in EPA 524.2.

Low thermal mass (LTM) technology has been proven to deliver fast gas chromatogram separation in many applications. The rapid heating and cooling of LTM technology provides an ultra fast GC method.

Agilent's Deconvolution Reporting Software (DRS) is an advanced tool that identifies analytes in the presence of overlapped matrix peaks. This significantly reduces the risk of both false positives and false negatives. It can be used with fast chromatography to shorten analysis times because chromatographic resolution requirements reduces as well. This saves data analysis time during onsite screening and identification.



Fifty-four target compounds in less than nine minutes



Twenty micrograms per liter of VOC standards mix in 10 mL water with 50 µg/L of internal standards (Scan and SIM).

Learn more:

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