



PerkinElmer Awarded U.S. Patent on Method to Ensure Accuracy of Automated Thermal Desorption Gas Chromatography

WALTHAM, MA – PerkinElmer, Inc., a global leader focused on improving the health and safety of people and the environment, announced today that the U.S. Patent & Trademark Office (USPTO) has awarded it Patent No. 7,422,625 B2 covering an advanced method in gas chromatography (GC). The patent, titled “Methods and Systems for Characterizing a Sorbent Tube,” protects the Company’s-proprietary methods that help gas chromatographers increase the accuracy of their results when using automated thermal desorption (ATD) gas chromatography (GC).

PerkinElmer’s automatic verification method described in the patent is deployed in the Company’s TurboMatrix™ Thermal Desorber product line of GC systems to help users avoid manual errors in ATD measurement, which can cause inconsistent results and compromise sample integrity. The method was co-invented by Andrew Tipler, senior scientist, gas chromatography, PerkinElmer, and Neil Plant, senior scientist, Health and Safety Laboratory, Buxton, United Kingdom.

“In the past, analysts had to be concerned that their results could be affected by lack of integrity of the packing materials in ATD tubes and traps,” said Tipler. “Our automatic method for checking the packaging integrity helps our customers maintain a high level of confidence in their analytical results, ultimately helping them to save time and increase lab productivity. The method is already incorporated in our TurboMatrix Thermal Desorber line, which can be used in a wide range of industries and applications.”

PerkinElmer first introduced ATD in 1982 as an effective method for isolating volatile compounds from various gaseous matrices so they can be introduced as samples into a GC instrument. It is the most popular technique for both indoor and outdoor air monitoring and is also used for analysis of soil, water, biofuels, polymers, packaging materials, flavors and fragrances, cosmetics, pharmaceuticals, and many other applications.

ATD works by drawing a vapor sample through a thermal desorption tube that is packed with one or more adsorbents. The tube is heated to release volatiles from the packing, which are swept into a cooled secondary trap. This trap is then rapidly heated to desorb the collected components into the GC column for separation and identification. These tubes and traps need to be packed consistently to provide the same sampling and thermal desorption flow rates and flow paths for each analysis run. If there are voids in the packing material or adsorbents become frail and fragment, gas flow can become channeled or blocked and analytical results can be inconsistent.

In the past, analysts sometimes manually measured the flow impedance of tubes to validate their performance, but this process is time-consuming and the traps are not easily accessible. Tipler’s and Plant’s automated method for monitoring the flow impedance of thermal desorption tubes and traps alleviates this problem. When the method is implemented, the user is alerted when thermal impedance moves outside of preset boundaries, which can usually be resolved by repacking or replacing the tube or trap.

For more information on PerkinElmer’s TurboMatrix Thermal Desorber product line, please visit www.perkinelmer.com/turbomatrix.

About PerkinElmer, Inc.

PerkinElmer, Inc. is a global leader focused on improving the health and safety of people and the environment. The Company reported revenue of approximately \$2 billion in 2008, has around 8,500 employees serving customers in more than 150 countries, and is a component of the S&P 500 Index. Additional information is available through www.perkinelmer.com or 1-877-PKI-NYSE.

About Health and Safety Laboratory (HSL)

The Health and Safety Laboratory (HSL) is Britain’s leading industrial health and safety facility with over 30 years of research experience across all sectors. HSL operates as an agency of the Health and Safety Executive (HSE) and provides independent and impartial scientific advice and research to a client base of over 400 organisations in addition to HSE. Additional information is available through www.hsl.gov.uk

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