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To learn more about **GERSTEL solutions**, please visit GERSTEL at the 59th Pittsburgh Conference, March 1 – March 7, 2008, Ernest N. Morial Convention Center, New Orleans, Louisiana. The GERSTEL-Team is looking forward to welcoming you on Booth # 4827.

P.S. Further information about GERSTEL and our products is available on the web under www.gerstel.com and www.gerstelus.com (USA).

fully integrated with the ChemStation from Agilent Technologies. Just one method and one sequence table is required to operate the complete system from sample preparation through sample introduction to LC/MS analysis providing efficient operation with less risk of error.

Depending on the customer preferences, GERSTEL can provide the complete system or just the sample preparation and sample introduction solution. Everything is available from a single source including application support, maintenance and service support such as IO/OQ-PV.

GERSTEL SPE WorkStation Solution

A WorkStation SPE Solution is available for laboratories that want high-performance, flexible sample preparation independent of their GC/MS or LC/MS systems. The GERSTEL SPE WorkStation Solution is based on the GERSTEL Multi-Purpose Sampler (MPS), a modular sample preparation robot. The system can be upgraded with one or more of a series of sampling and sample preparation options as the need arises. In short, the SPE WorkStation adapts to, and grows with, your laboratory productivity needs.

And, of course, the MAESTRO software runs everything at the click of a mouse. Samples can be weighed automatically, agitated, stirred, cooled or heated. A standard or a derivatization reagent can be added automatically; samples can be processed in any order to best serve the needs of the laboratory; sample prep steps can be performed in parallel for maximum productivity and throughput. Sample Prep was never this easy.



GERSTEL Solid Phase Extraction Solution for Liquid Chromatography

Thermal Desorption System (TDS)

On-line derivatization for Thermal Desorption

In order to determine semi-volatile or thermally labile compounds by gas chromatography (GC), these must often be derivatized prior to analysis. While derivatization is routinely performed by many laboratories, it is not a trivial matter. Depending on the analysis and the derivatization agent used, it can be cumbersome and difficult to perform. Mostly, derivatization is performed in solution. In the case of thermal desorption analysis, it is preferable to add a gaseous derivatization reagent. GERSTEL has developed a module for the Thermal Desorption System (TDS 3), that enables on-line derivatization of analytes during the thermal desorption phase.

The on-line derivatization module delivers a reagent into the carrier gas flow and thereby to the thermal desorption tubes. Analytes are derivatized and volatilized for subsequent GC or GC/MS determination. The derivatization agent is added during thermal desorption

only and can be switched off by deselecting the function in the MAESTRO software TDS method page.

The on-line derivatization module for the GERSTEL TDS; it has been used successfully in forensic applications, determining residual solvents and other chemical compounds in ink in order to determine the age of printed or handwritten text. Examples could be parts of signatures or numbers in a document that may have been added after the document was originally signed.



Automated Liquid Sample Introduction

Direct Thermal Extraction in disposable micro-vials

Automated TDU-Liner Exchange (ATEX) is a new sample preparation option for the GERSTEL MultiPurpose Sampler (MPS) in combination with the GERSTEL Thermal Desorption Unit (TDU).

The ATEX option enables the introduction of liquid samples directly into micro-vial inserts used for thermal extraction / thermal desorption in the TDU.

Extracted analytes are refocused and concentrated in a Cooled Injection System (CIS) inlet prior to introduction to the GC/MS system. Efficient extraction and concentration ensures highest possible sensitivity and lowest detection limits.

After the concentrated analytes have been introduced to the GC/MS system, the micro-vial sample cup with the remaining high-boiling or solid residue is automatically removed. ATEX helps to ensure maximum uptime and best possible analysis results by keeping involatile or complex matrix material out of the GC/MS system. ATEX micro-vials can be used for liquid or



solid samples. Up to 196 samples can be processed automatically for determination of VOCs and SVOCs in heavy or involatile matrices. Standard addition and other sample preparation steps can be performed automatically by the MPS.

The complete system is operated through the GERSTEL MAESTRO software either stand-alone or integrated with the Agilent ChemStation. Just one method and one sequence table controls the complete process from sample introduction

through thermal desorption to GC/MS analysis ensuring the simplest possible and most productive operation.

Suggested applications are the determination of VOC or SVOC concentrations in high-boiling or involatile matrices by thermal extraction, also referred to as dynamic headspace analysis or stripping. Examples are: Residual solvents in packaging material; plasticizers in packaging material and in foods such as edible oils; and flavor and fragrance compounds in household products or personal care products.