

PEAKS of Interest

Gerstel provides CDC with chemical analysis systems to improve state and local response to chemical terrorism

Gerstel, Inc. (Baltimore, Maryland), announced that the U.S. Centers for Disease Control and Prevention (CDC) has ordered automated sample preparation equipment and services for gas chromatography–mass spectrometry (GC–MS) chemical analysis. This is part of a grant program to build state and local preparedness for chemical terrorism. Gerstel will deliver and install the instruments to state health laboratories as part of the CDC's effort to develop its Chemical Terrorism Laboratory Network, a nationwide response network for chemical terrorism and other public health threats.

The CDC order includes more than 40 Gerstel MPS2 MultiPurpose sampling systems with associated consulting, applications support, and service agreements. Gerstel is in a partnership with Agilent Technologies, Inc. (Palo Alto, California).

Gerstel's president, Robert Collins, states, "By acquiring these systems, the CDC is making an important step in creating a robust infrastructure that will enable states and municipalities to deal with a release of chemical agents. The Gerstel–Agilent systems will perform the critical measurements necessary to help guide proper response to a chemical terrorist event. We are eager to work with CDC and other government agencies to develop effective chemical analysis solutions."

Shimadzu Scientific Instruments and Proteome Systems expand relationship in North America

Shimadzu Scientific Instruments (Columbia, Maryland) and Proteome Systems, Inc. (Woburn, Massachusetts) have reached an agreement to cooperate in sales and marketing efforts to provide customers with a complete solution in proteomics, including integrated instruments that bridge sample preparation and protein identification technologies. Both companies will dedicate their demonstration facilities (SSI, Pleasanton, California, and Proteome Systems) to this endeavor. These facilities will handle the U.S. and Canadian markets.

Agilent Technologies combines gene expression, proteomics, and reagents businesses into new life-sciences unit

Agilent Technologies, Inc. announced the formation of the Integrated Biology Solutions (IBS) unit within its Life Sciences and Chemical Analysis business group. This new unit consolidates management of Agilent's growing gene expression, proteomics, and

Chromatography Market Profile

TGA–GC–MS and TGA–MS

Thermogravimetric analysis (TGA) measures the change in weight of a sample due to the addition of heat. Generally, samples will give off water vapor or other gases when heated and become lighter. Thermogravimetric analyzers are used to measure moisture content in foods, develop temperature profiles for firing ceramics, and for many other uses. The analyzers are stand-alone instruments but are coupled to gas chromatography–mass

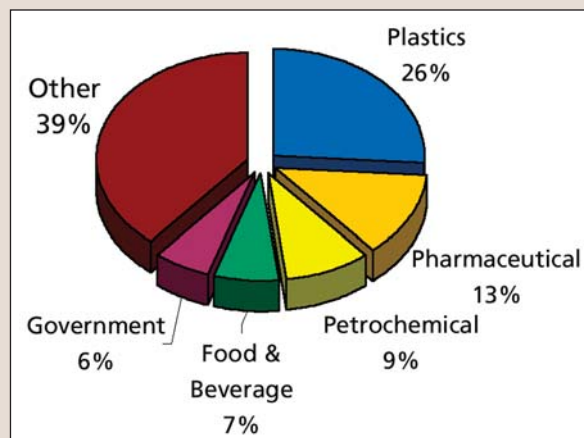
spectrometry instruments (GC–MS) for an on-line identification of gas effluents by separating the various components. Essentially, the gases evolved from the TGA furnace are trapped and injected into a GC–MS system for analysis.

Typically, the interface between the analyzer and the GC–MS or MS system is a fused silica capillary. Usually, it is heated to prevent the volatiles from condensing. One instrument manufacturer developed a novel interface that uses a system of vacuums to direct a collimated beam of gas molecules toward the ionization source of a mass spectrometer.

Applications for TGA–MS and TGA–GC–MS are very similar. Thermal stability analysis of polymers in the plastics industry is perhaps the most widely used application for TGA–GC–MS. In fact, the plastics industry accounted for 26% of the worldwide market for TGA instrumentation, of which TGA–GC–MS is a subset. The pharmaceutical industry accounted for 13% of the market. TGA–GC–MS systems are used in the pharmaceuticals industry to assess drug substance purity, polymer characterization, polymorphism screening, lyophilization process optimization, and residual solvent quantification.

Petrochemical, food and beverage, and government also are major users of TGA instruments. Currently, the market for TGA–GC–MS accounts for less than \$7 million but is expected to grow to double digits during the next few years.

The foregoing data was extracted from *SDI's Market Analysis and Perspectives (MAP) Report, "Physical Properties Instrumentation: Surviving and Prospering in a Changing Marketplace."* For more information, contact Mike Tice, Sr. Consultant, Strategic Directions International, Inc., 6242 Westchester Parkway, Suite 100, Los Angeles, CA 90045, tel. (310) 641-4982, fax (310) 641-8851, e-mail mtice@strategic-directions.com.



2003 TGA industrial demand.

reagents business under the leadership of Fran DiNuzzo.

"The new structure will provide a single interface through which Agilent can better serve its customers in basic research, drug discovery, and early-stage drug development," said DiNuzzo. "It will enable the rapid development of products that bridge multiple disciplines, thereby facilitating a more integrative study of biological organisms often referred to as 'systems biology.'"

Pharmaceutical, biotech, and academic customers use a combination of technologies to research disease and new drugs. The data obtained during research is applicable

to the broader study of biological systems such as molecular pathways and cellular metabolism. But traditionally, it has been very difficult to integrate these diverse technologies and the data they produce. Agilent's new business unit pulls these technologies and markets under the same leadership with an eye toward the development of more comprehensive and integrated customer solutions.