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FOR IMMEDIATE RELEASE

April 9th, 2009

ACHEMA 2009: Visit SETARAM at Booth J24 – K25 - Hall 6.3

Setaram has long used Achema to launch new and exciting products into the Materials Characterisation field and this year we will be introducing a number of new product lines and we invite you to visit us at Booth J24-K25 – Hall 6.3 to view these exciting developments:

Setaram Introduces VistoMS: A Revolutionary TGA-FTICR Coupling

Setaram (Caluire, France) and AlyXan (Juvisy, France) are pleased to announce the development of **VistoMS** a **NEW** technique and coupling for thermal analysis techniques using **Fourier Transform Ion Cyclotron Resonance Mass Spectroscopy** (FTICR) for ultra high resolution identification of evolved volatiles.

This new technique is the first true coupling innovation for many years, and is based upon a mass spectrometry technique that directly measures, without prior sample preparation, the ion's cyclotron frequency and calculates the corresponding mass. One of the main advantages of the method is that it does not fragment the evolved molecules, allowing the simultaneous identification of numerous compounds easier to make. As such it has the power to deliver a very high resolution and a very high sensitivity for the measurement of evolved molecules.

The FTICR uses various precursor ions such as H_3O^+ to deliver a **soft** ionisation allowing the ionisation of the molecules without fragmentation. As the exact mass of the molecules is obtained, their identification is made extremely easy and the results deliver the corresponding molecular formulas. Additionally the mass precision is as performant as 0.01 u, the new VistoMS can differentiate between molecules with the same nominal mass, something that is almost impossible with traditional MS techniques coupling with thermal analysis techniques.

Additionally the VistoMS can be used for the quantification of the different gases emitted by the sample without any calibration. The detection limit is in the ppm range for a mass range up to 300 u. Compounds of this whole mass range are simultaneously detected at each spectrum, giving a true representation of an unknown sample. Furthermore the technique can work with humidity controlled atmospheres for samples, something not possible with many other spectroscopic techniques.

The coupling between the thermoanalyzer and the FTICR instrument is easily completed at atmospheric pressure and a portion of the gas flow coming from this line is introduced into the gas analyzer and submitted to a primary vacuum, then a secondary vacuum before reaching the measuring zone. The measuring time for a sample is about a few seconds (~ 2 s classically).

The VistoMS coupling is designed for the investigation of degradation or decomposition of organic materials (plastics, resins, composites, food and pharmaceutical products, petroleum products, tobacco, cellulosic materials, organic wastes ...) when a comprehensive identification and quantification of emitted gases is needed of even the smallest trace of evolved species.

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About Setaram Instrumentation

For sixty years, **Setaram Instrumentation (Caluire, France)** has provided dedicated solutions in thermal analysis, calorimetry, gas sorption and high pressure mass spectroscopy, domains of increasing importance for scientists in academic, pharmaceutical, biotechnology, food, oil and gas, nuclear, process safety, energy and advanced materials. Setaram Instrumentation systems generate unique data from nano to macro thermal events, from very low temperature to 2400°C, and from high vacuum to 1000 bars. For research,

- Germany
- Italy
- United Kingdom
- Switzerland
- China - Shanghai

development, manufacture and wear testing, these data give insight into material functionality and play a key role in the critical decision-making required for the efficient development and production of new materials.

About AlyXan

AlyXan, based in Juvisy-sur-Orge, close to Paris in France, specialises in the conception of compact and transportable FT-ICR mass spectrometer instruments, well-suited for complex trace analysis in real time of volatile organic compounds. The company was created in October 2005 by a team from the Physical Chemistry Laboratory of Orsay, France (CNRS – The French National Centre for Scientific Research at Université de Paris Sud 11) specialised in gas phase ion physics. AlyXan benefits from over 20 years of experience in the field.

The work that led to this innovation has been recognized through a number of awards:

** The University Award for applied research in 2003 (from the Regional Council of Essonne)*

** The National Award for the New High Technology Innovative Company in 2003 and 2004*

Miniaturization of FTICR technology broadens the range of applications for high resolution mass spectrometers in environmental, industrial or fundamental studies.

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