



CHEMICAL INDUSTRY

Avance Chemical Profiling

Transforming Chemical Analysis for the Industry

Innovation with Integrity

Setting new Efficiency Standards by Applying High Performing Analytical Technology

Today's world's leading chemical companies are committed to sustainability. Their goal is not just to develop chemistry, but to develop chemistry that prioritizes sustainability and environmental responsibility. They strive to drive a greener and more sustainable future.

That is why they need advanced analytical solutions helping to create greener valued product while growing profitability.

Bruker BioSpin has been developing cutting-edge technologies in the field of NMR for more than 60 years. The Avance series floor-standing NMR spectrometers are widely applied in various industrial market segments at a variety of value chain positions helping industries to meet their goals in product innovation.

Increasing Process Efficiency and Consistency with NMR Chemical Mixture Analysis

The new NMR-based Avance Chemical Profiling Module is a comprehensive software-based automated end-to-end workflow from sample to actionable information intelligence without the need for any spectroscopic expert interaction.

Features

- Most-modern automation software for identification and quantification of substances in pure form or in mixtures
- Full integration into TopSpin® and IconNMR™ allows for comprehensive workflow creation from sample to actionable information intelligence
- New-standard-setting in external and internal NMR reference management
- Best-in-class ease of use and intuitive method creation
- NMR-Expert-created analytical testing methods become executable for spectroscopic non-experts by the push of a button
- Operator-independent high-throughput testing allows for optimized result comparability and lab-to-lab method harmonization
- Full on-premise installation ensures IP security and method ownership
- Best-in-class ease of use and intuitive method creation

The importance of automated workflows and flexibility cannot be overstated in high-throughput environments such as production-related labs, analytical testing services, R&D centers, and pilot-upscaling support functions within centers of excellence.

Avance Chemical Profiling addresses the tasks of data acquisition, processing, interpretation, and report filing. It automatically identifies and quantifies substances in pure form or in mixtures and allows for optimized throughput and result harmonization. The comprehensive solution is applicable to incoming goods testing, process intermediates monitoring, and final product formulation screening to improve both, quality, and efficiency in R&D lab-scale, pilot, and volume production processes.

The database-driven solution is customizable by in-house NMR experts allowing for application on a variety of use cases.

Automation Saves Your Time

- Automated analysis software for identification and quantification of substances in pure form or mixtures
- Automated Sample-to-Report methods directly available via IconNMR™ or TopSpin® for faster identification and quantification at the push of (one) button
- Different report formats: PDF, XML, and interactive results directly accessible on the software interface
- Highly accurate and reproducible results
- Sample handling, data acquisition, and initial raw data processing is fully automated

No NMR Expertise Needed for Operation

- Easy-to-read actionable information intelligence (report) by spectroscopic non-expert including analysis consistency check
- Operator-independent results
- Full customer ownership of methods and databases
- Multi-page report with results, analysis, consistency check, analysis and processing parameters used
- Includes direct spectrometer control from data acquisition to data interpretation, and report filing without user interaction

Use Cases Expansion

- Allows your NMR instrument to do much more than structure elucidation
- Allows for tailored testing services including re-processing of existing data and improving retrospective data analysis capabilities
- Method performance optimization by tailored database usage
- Customizable chemical compound database; easy database expansion possible
- Method and database can be easily deployed in other locations across same organization for a distributed lab topology approach (DLT)



Figure 1: Avance Chemical Profiling multi-page report



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