



## **Rapid Airborne Molecular Contaminant (AMC) Quantitation and Speciation using SIFT-MS**

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The number of airborne molecular contaminants (AMCs) of concern in semiconductor fabs is increasing with the decrease in process node size. The acceptable concentration of cleanroom AMCs is simultaneously decreasing, as is the desired sampling time. These changes suggest that new AMC monitoring technology will be required to keep up with increasingly demanding production environment. Selected ion flow tube mass spectrometry (SIFT-MS) is an example of the type of real-time, quantitative analytical technology that could fulfil these more stringent monitoring requirements. SIFT-MS is a chemical ionization based technique that uses multiple, rapidly switched reagent ions to chemically separate and quantify analytes from complex samples in real-time to part-per-trillion levels. This paper compares the analytical performance of SIFT-MS to current technologies, such as GC-MS and IMS. It also presents cleanroom ambient air monitoring data from a semiconductor cleanroom in eastern China.