Online Quantitative Monitoring of a Reacting Mixture

A new method enables on-line, high-quality quantitative and qualitative analysis of chemical mixtures, including bulk reagents and impurities, for improved manufacturing and development in chemical and pharmaceutical industries.

Accurately assessing an extremely small quantity of a substance is a constant challenge for researchers in many fields, including chemistry. Specifically, reacting mixtures need to be carefully and extremely accurately measured in terms of its precise chemical makeup. While mass spectrometry is more successful in this usage than other methods of chemical analysis, it has not been used for on line quantitative analysis of mixtures including those present in chemical and pharmaceutical manufacturing and development.

Researchers at Purdue University have developed a new method for on line quantitative analysis of chemical mixtures. This method can be used on specific chemicals in a mixture, including bulk reagents and impurities. By continuously removing a small amount, diluting, and adding standards and ionization before spectrometry, the technology can provide high quality, specific information. This information is both quantitative and qualitative in nature, and can be used to refine mixtures for reactions.

Advantages:

-Quantitation of specific, small amounts of chemicals

-Provides high quality information

-Qualitative and quantitative analysis

Potential Applications:

-Chemical manufacturing

-Pharmaceutical manufacturing

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Category

Pharmaceuticals/Drug Discovery & Development
Biotechnology & Life Sciences/Analytical & Diagnostic Instrumentation
Chemicals & Advanced Materials/Materials Processing & Manufacturing Technologies

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