

ACCURATE, RELIABLE, COST-EFFECTIVE ELEMENTAL ANALYSIS FOR ENERGY AND CHEMICAL SAMPLES

AA. MP-AES. ICP-OES. ICP-MS. ICP-QQQ

Maximize product quality and profitability

Trace elements may be present in energy and chemical samples as contaminants or performance additives. Accurately determining the concentration of these trace elements is critical to understanding the quality and performance of the product, and for maximizing efficiency and cost-effectiveness in their manufacture.

Agilent atomic spectroscopy solutions

- Accurate, reliable, low-system-cost atomic absorption spectrometers (AA) are ideal for low numbers of samples or where only a few elements are measured.
- The Agilent microwave plasma atomic emission spectrometer (MP-AES) runs on air, enabling unattended multi-element analysis without flammable or expensive gases – an ideal cost-effective and safe alternative to AA.
- The Agilent inductively coupled plasma optical emission spectrometer (ICP-OES) provides simultaneous elemental analysis and industry-leading sample throughput.
- Agilent ICP mass spectrometers (ICP-MS and ICP-QQQ) have the broadest elemental coverage, high matrix tolerance, and lowest detection limits. Agilent systems are also used throughout the industry for sensitive, selective speciation analysis, using chromatographic separation (usually GC or LC) coupled to ICP-MS.



FREE DOWNLOAD

Discover how Agilent's Microwave Plasma Atomic Emission Spectrometer is a cost-effective multi-element alternative for the direct analysis of elements in crude oil.

Visit:

www.agilent.com/chem/4210mpaes



Agilent Technologies



Atomic absorption spectroscopy (AA)

- Low system cost
- Low to moderate productivity
- High ppb to %
- Up to approximately 3% total dissolved solids

The Agilent low-cost AA is used for a variety of petrochemical analyses, such as measuring Si, Sn, and Ti in jet engine oil. Flame AA with the SIPS accessory is used for determining Mg, Ca, and K in brines. It has unique fast sequential capability, simplicity of operation, and very good sensitivity.



Microwave plasma atomic emission spectroscopy (MP-AES)

- Moderate to high productivity
- Medium ppb to %
- Low running cost
- Up to approximately 3% total dissolved solids

The Agilent MP-AES saves you money because it runs on air. MP-AES offers accurate and reliable performance for samples such as biofuels, diesel fuel, and contaminant elements in chemical samples such as plating bath solutions and formation waters.



Inductively coupled plasma optical emission spectroscopy (ICP-OES)

- Highest productivity (<30s per sample) with AVS 6/7
- Low ppb to %
- Up to 30% total dissolved solids

The Agilent 5110 ICP-OES is the world's most productive ICP-OES. Utilizing a vertical plasma for axial and radial emissions, it delivers excellent sensitivity and high matrix capability. Common applications include analysis following ASTM D5185 for wear metals like Fe, Ni, and Cr and for analyzing Pd in acid-digested gelatin.



Inductively coupled plasma mass spectrometry (ICP-MS and ICP-QQQ)

- High productivity (<60s per sample) with ISIS 3
- Low ppq to %
- Up to 25% total dissolved solids with optional ultra high matrix introduction
- Speciation and nanoparticle characterization

The Solution-Ready Agilent 7800 quadrupole ICP-MS provides a streamlined approach to routine elemental analysis applications, while the Agilent 7900 ICP-MS offers superior detection limits, wider dynamic range, and greater flexibility. The Agilent 8900 ICP-QQQ uses MS/MS mode to resolve interferences, providing the accuracy needed for difficult elements and advanced applications. ICP-MS applications include the analysis of trace elements in crude oil, petroleum fuels and biofuels, and the measurement of trace contaminants in solar silicon wafers and process chemicals. Agilent systems are also used throughout the industry for sensitive, selective speciation analysis, using chromatographic separation (usually GC or LC) coupled to ICP-MS.



For more information:
Contact your local Agilent
representative or visit:

www.agilent.com/chem/energy

This information is subject to change without notice.

© Agilent Technologies, Inc. 2016
Published December 7, 2016
5991-5606EN



Agilent Technologies