

# ACCURATE, RELIABLE, COST-EFFECTIVE METAL ANALYSIS FOR ENVIRONMENTAL SAMPLES

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

To meet increasingly tough regulatory and budgetary challenges, environmental laboratories must deliver accurate results faster, more reliably, and more cost-effectively than ever before.

Whatever your environmental application, Agilent's range of atomic spectroscopy instruments can help you produce the high quality data you need, on time, and on budget. Our high-productivity AA, MP-AES, ICP-OES, and ICP-MS instruments enable you to quickly and accurately identify and quantify metals and other inorganic contaminants in a broad range of matrices. Whether you are measuring environmental samples at the lowest levels of detection, or doing routine screening, Agilent has a solution for you.

## Agilent atomic spectroscopy solutions

- Accurate, reliable, and economical atomic absorption spectrometers (AA) are ideal for low numbers of samples or when measuring only a few elements.
- 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 alternative to AA.
- The Agilent inductively coupled plasma optical emission spectrometer (ICP-OES) provides simultaneous metals analysis and industry-leading sample throughput.
- Agilent ICP mass spectrometers (ICP-MS and ICP-QQQ) have the broadest elemental coverage, highest matrix tolerance and lowest detection limits. Agilent systems also provide support for speciated analysis with chromatography coupling, and dedicated hardware and software tools for advanced nanoparticle characterization.



### FREE ONLINE RESOURCES

Learn about Agilent's accurate, cost effective, environmental solutions by accessing a wealth of webinars, free white papers and more on our online environmental portal.

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**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 commonly used for a variety of regulated and non-regulated water and trade waste samples. 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 delivers accurate and reliable performance and is perfect for metals analysis in trade wastes. It can be safely operated, unattended, in locations remote from a lab with the use of an Automation Software Pack.



## Inductively coupled plasma optical emission spectroscopy (ICP-OES)

- Highest productivity (<30 s per sample) with the 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. It is commonly used for regulated and non-regulated environmental contamination and trade waste applications.



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

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

The Solution-Ready Agilent 7800 quadrupole ICP-MS offers a streamlined approach to routine environmental analysis, while the Agilent 7900 ICP-MS delivers superior detection limits, wider dynamic range and greater flexibility. The accuracy of the Agilent 8900 ICP-QQQ with MS/MS mode makes it ideal for advanced applications, problematic samples, and difficult analytes. ICP-MS applications include routine multi-element analysis in clean and contaminated environmental samples. ICP-MS is also suitable for chromatographic separation (speciation analysis) and characterization of nanoparticles in the environment.



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

[www.agilent.com/chem/environmental](http://www.agilent.com/chem/environmental)

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