

FAST-TRACK YOUR ENVIRONMENTAL WASTE ANALYSIS WITH THE AGILENT 7800 ICP-MS

The Measure of Confidence

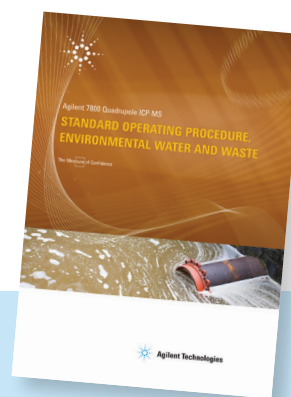
Solution-Ready Agilent 7800 Quadrupole ICP-MS

When Pre-set Methods and productivity tools combine with high-performance ICP-MS, the results are extraordinary

Waste analysis, from treated wastewater to contaminated soil, presents many challenges for routine analysis by ICP-MS. Sample matrices are often high, with many major elements at 100s or 1000s of mg/L, with percent levels of other matrix components such as chloride, sulphate, and carbon. This leads to signal suppression and the formation of many polyatomic interferences in the ICP-MS spectrum, a problem compounded by matrix levels that vary from sample to sample, and so the interferences are unpredictable.

Contract labs must analyze many regulated and non-regulated samples with fast turnaround times. Consequently, routine waste analysis requires a robust method that produces reliably accurate results for many elements, in variable matrices, without requiring extensive method development for each sample type.

The new Agilent 7800 ICP-MS comes with Pre-set Methods for waste analysis, auto-optimization tools, and a standard operating procedure (SOP). ICP-MS has never been easier to use. The robust plasma, unique high matrix introduction (HMI) technology, wide dynamic range, and helium cell mode, let you quickly produce reliable results, even in highly variable waste samples.



Waste analysis with the Agilent 7800 ICP-MS

SOP includes:

- Waste method summary and analytes
- Controlling interferences
- Sample preparation details
- Pre-set Method parameters
- Calibration and Quality Control
- Method validation
- Troubleshooting guide

For more, go to:

www.agilent.com/chem/7800icpms



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Accurate, reliable, quantitative results for all regulated elements in wastes

Two key issues must be solved to simplify routine waste analysis and ensure accurate results with variable, high-matrix samples:

- Suppression (signal loss) caused by high and variable sample matrices must be avoided or corrected
- Spectral interferences, caused by polyatomic ions formed from the matrix elements, must be reduced

High matrix introduction (HMI) technology on the 7800 ICP-MS reduces the sample matrix load on the plasma, and so much higher matrix levels are analyzed routinely (up to 3% total dissolved solids (TDS)). This means that additional sample dilution is avoided, and unknown samples are measured with confidence, simplifying laboratory workflow.

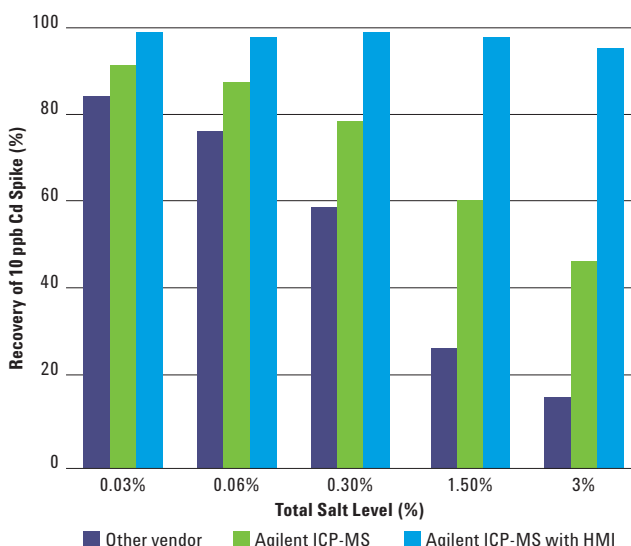
On the 7800 ICP-MS, the octopole-based collision/reaction cell works so effectively in helium (He) mode that a wide range of matrix based polyatomic interferences are eliminated with one set of cell conditions. This provides method simplicity, and delivers reliable and accurate quantitation of all elements at the regulated levels, without the added complexity involved in methods that use a reactive cell gas.

Simplify waste analysis workflow

- Standard operating procedure
- Auto-optimization tools
- Pre-set Method for waste analysis
- QC, tune, and sample analysis reports
- Optional ISIS 3 for fast discrete sampling

High matrix introduction (HMI)

The 7800 ICP-MS uses unique HMI technology to reduce matrix suppression, and so variable samples can be measured reliably against simple aqueous standards.



Cd recovery in samples up to 3% TDS. HMI ensures recovery is consistent in variable matrices, so matrix-matching of calibration standards is not required

High throughput discrete sampling

The Agilent Integrated Sample Introduction System (ISIS 3) provides high throughput discrete sampling (DS) for the 7800 ICP-MS, reducing sample run times to <90 s, while still maintaining effective interference removal in He mode for complex samples.

For more information, go to:
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This information is subject to change without notice.

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