FAST-TRACK YOUR DRINKING WATER 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

ICP-MS is widely used for trace element analysis of drinking water, offering low detection limits, accurate quantitative results for all regulated elements, and high sample throughput.

But many laboratories have not yet switched to ICP-MS, because of concerns about ease of use, complex method development, or limited throughput. Other laboratories use ICP-MS, but not to its full potential, due to limitations in dynamic range or control of interferences. This can mean that sample analysis must be duplicated on other instruments, to allow measurement of the full range of major and trace elements typically monitored in drinking water.

The new Agilent 7800 ICP-MS addresses these limitations. Preconfigured methods, auto-optimization tools, and a standard operating procedure (SOP) mean that ICP-MS has never been easier to use. And the robust plasma, wide dynamic range and standard helium (He) cell mode of the 7800 ICP-MS, ensure that you will quickly produce reliable results in your drinking water samples.
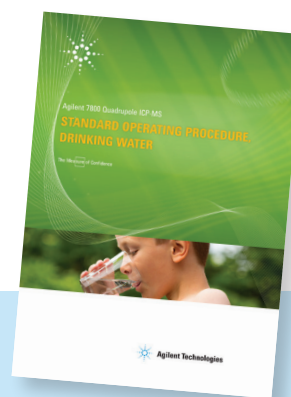
Drinking water analysis with the Agilent 7800 ICP-MS

SOP includes:

- Drinking water 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 drinking water

Drinking water is a relatively simple matrix, but there are some challenges in measuring all the required analytes accurately:

- Total dissolved solids (TDS) levels can be high, due to minerals in the source water

- Major elements (Na, Ca) can be present at 100s mg/L (ppm), over-range on some ICP-MS instruments

- Chloride (HCl) must be added to samples to retain Hg, and HCl helps stabilize other elements such as As, Se, Sb, and Ag

- Some analytes such as Be, As, Se, Cd, and Hg are poorly ionized, meaning that they have relatively low sensitivity, especially with a less robust plasma

- Many elements suffer from polyatomic interferences

The 7800 ICP-MS uses optimized hardware to address these issues. The robust plasma improves ionization, while High Matrix Introduction (HMI) technology extends matrix tolerance (up to 3% TDS). The wide dynamic range detector measures all major and trace analytes in a single run. Helium (He) cell mode (where permitted) reduces interferences, including Cl-based polyatomic ions from the addition of HCl. This ensures accuracy and removes the need for correction equations.

### Simplify drinking water analysis workflow

- Standard operating procedure
- Pre-set Method for drinking water
- Auto-optimization tools
- QC, tune, and sample analysis reports
- Optional ISIS 3 for fast discrete sampling
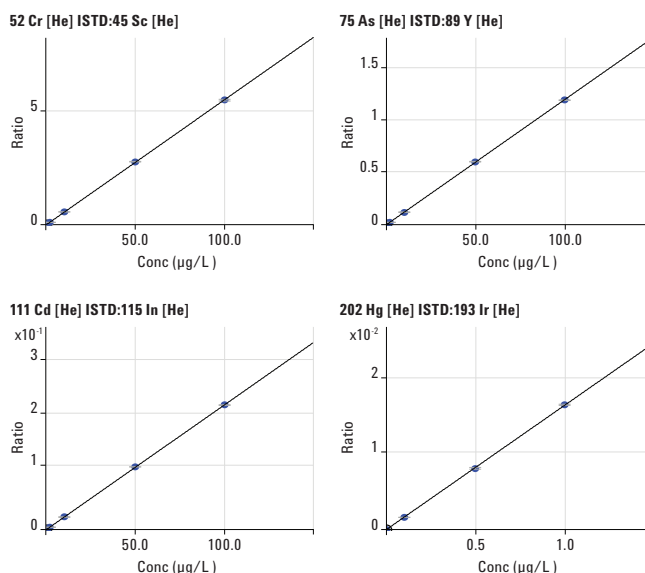
Helium mode calibrations for low level trace elements

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, without compromising interference removal.
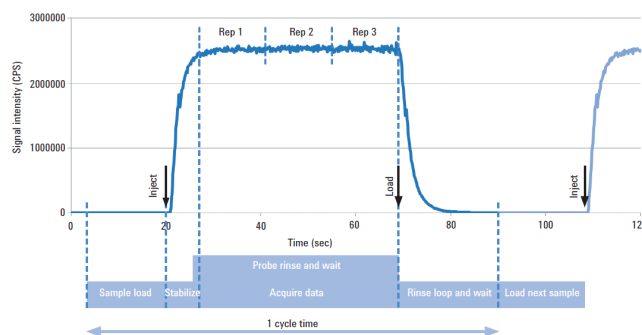
Agilent ISIS 3 reduces run times to <90 seconds per sample

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