

METHOD STATEMENT



Determinand:

Preparation and digestion for subsequent analysis of metals by ICP-OES and ICP-MS.

Matrix:

Sample Type: Raw, Potable, Surface and Ground waters

Principle of Method:

Prior to the analysis of a samples on the ICP-OES or ICP-MS, the sample must be acidified with nitric acid and then digested at a temperature of $80 \pm 5^{\circ}\text{C}$ for a minimum of 6 hours.

Potable water samples, either raw samples or samples in distribution can contain particulate metals / metal oxides. These may come from the water distribution main, domestic plumbing, or natural sources. To determine the total levels of metals in a sample, the sample is acidified and heated so that any metal / metal oxide particulate matter dissolves and a total metals result is obtained. To determine the dissolved metals (filtered metals) in the sample, the samples should be filtered through a $0.45 \mu\text{m}$ filter prior to acidification to remove any particulate matter.

Interferences:

Not applicable to this method

Performance of Method:

Range of Application:

Not applicable to this method

Limit of Detection:

Not applicable to this method

Recoveries of Compounds and Uncertainty of measurement:

Not applicable to this method

References:

In-house Method WPC12- Dissolved and total metals in raw, potable, surface and groundwaters by ICP-OES
In-house Method WPC15 - Dissolved and total metals in raw, potable, surface and groundwaters by ICP-MS
In-house Method WPC49- Dissolved (Filtered) and total metals in raw, potable, surface and groundwaters by AGILENT 720 ICP-OES

