

METHOD STATEMENT



Determinand:

Preparation of Samples for Filtered and Total Metals Analysis.

This preparation is suitable for the analysis of Cadmium, Chromium, Copper, Lead, Nickel, Zinc, Iron, Manganese, Aluminium, Calcium, Magnesium, Sodium, Potassium, Lithium, Strontium, Barium, Boron, Beryllium, Cobalt, Vanadium, Tin, Molybdenum, Titanium, Thallium, Silver, Phosphorus and Sulphur.

Matrix:

Surface waters, Recreational Waters, Process Waters, Treated Sewage, Land Leachate, Untreated Sewage, Groundwaters, Trade to controlled and Trade to Sewer.

Principle of Method:

Filtered Metals: -

The samples are filtered through a 0.45 µm filter prior to pretreatment. Internal standard is added during preparation in order to compensate for matrix effects during analysis. Pretreatment also ensures that the sample is in the correct matrix. The sample can be analysed using various spectroscopic methods, including ICP-OES.

Total Metals: -

The pre-treatment ensures that any metals present in suspended or colloidal forms are converted to the soluble form. Internal standard is added during preparation in order to compensate for matrix effects during analysis. The sample can be analysed using various spectroscopic methods, including ICP-OES.

Sampling and Sample Preparation:

Samples requiring metals analysis are collected from a 1 litre PET bottle.

Interferences:

Full dissolution of samples with high silica content can prove difficult.

References:

Methods for the examination of Waters and Associated Materials, Cadmium, Chromium, Copper, Lead, Nickel and Zinc in sewage sludges by Nitric Acid/AAS1981. ISBN. 011 7516155.