

METHOD STATEMENT



Determinand:

Determination of Total Dissolved Solids.

Matrix:

Sample Types: Raw, Potable including Bottled Waters, High Purity Samples, Surface and Ground Waters.

Principle of Method:

This method uses any suitable heated water bath and suitable ceramic / metal crucibles. This method determines the level of dissolved material in a sample. Suspended matter, if present, is removed by filtration through a 0.45µm cellulose acetate membrane. The sample is then evaporated to dryness in an evaporating basin on a water bath followed by heating in an oven at the required temperature. The total dissolved solids are then determined gravimetrically.

Sampling and Sample Preparation:

Samples are normally collected in 500 ml PET bottles. Other size PET bottles or glass bottles are also suitable.

No special preservation is required

If analysis cannot be immediately undertaken, samples can be stored at room temperature until the day of analysis. Storing at a temperature 1 - 5°C will help prevent algal growth. Samples should be analysed within 12 days of sampling.

Interferences

Interference effects may be caused by samples containing bicarbonates and / or hygroscopic salts that may pick up water after drying.

Performance of Method:

Range of Application:

No upper range of application
The reporting limit is 42.9 mg/l.

Limit of Quantification:

42.9 mg/l for 100ml of sample.
If a smaller volume is used the LOQ should be adjusted accordingly using following formulae.
$$\text{Nominal Volume (ml)} \times \text{LOQ} / \text{Actual Volume (ml)}$$

Recoveries of Compounds and Uncertainty of measurement:

Sample type	Mean sample result (mg/l)	Mean sample spike result (mg/l)	Conc. of spike (mg/l)	Spike recovery (%)	Bias (%)	% Uncertainty
Soft water	125	1522	1391	100.5	-	7.97
Medium water	393	1560	1141	102.2	-	8.40
Hard water	373	1493	1116	100.3	-	6.96
Surface water	265	1483	1221	99.7	-	6.61
400 mg/l Std	395.3	-	-	-	-1.17	13.2
1500 mg/l Std	1495	-	-	-	0.29	5.2

References:

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Suspended, Settleable and Total Dissolved Solids in Waters and Effluents 1980, Methods for the examination of Waters and Associated Materials. (HMSO) ISBN 011751957X