

Zinc (conc. > 0.2 mg/l)

Function: Differential Pulse Voltammetry (DPV/a)

Start Potential (mV)	-800
End Potential (mV)	-1200
Current range	102,4
Scan Speed (mV/s)	20
Number of cycles	3
Delay before sweep (s)	10
Purge and stir time (s)	300
Stirring speed (rpm)	500
Drop Size (a.u.)	60

Zinc concentrated standard solution (1 g/l)

Dissolve 1 g of Zinc in a minimum volume of 6 M HCl. Bring to volume in a 1 l volumetric flask with 1% HCl.

Supporting Electrolyte

0.1 M Acetate buffer, pH 4.5

Dissolve 8.2 g of anhydrous CH₃COONa (or 13.6 g of CH₃COONa·3H₂O) in 800 ml of distilled water. Add 5.75 ml of glacial CH₃COOH. Check and adjust the pH. Bring to volume with distilled water, in a 1 l volumetric flask

Procedure

Add 1 – 10 ml of sample to 10 ml of Supporting Electrolyte.

Alternatively, add 26% NH₃ to the sample until pH from 3 to 7.

Analyse sea water, high salt content sample and acidic solution (at pH between 1 and 3) avoiding the addition of the supporting electrolyte.

Samples at pH above 7 are to be neutralised before the addition of the supporting electrolyte.

Working standard solution (100 mg/l)

Dilute 1+9 the concentrated standard solution with distilled water, in a volumetric flask.

Warnings

If the pH of the sample is 3 – 7, avoid the addition of supporting electrolyte; but if the content of salts of the sample is low, the addition of supporting electrolyte is mandatory.

Analytical report

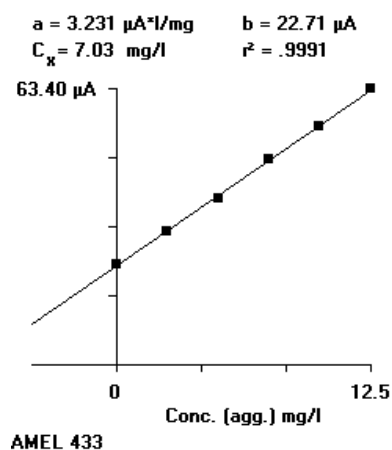
Analysis: tap water

Sample Concentration = 7.03 mg/l

Method: 5 additions

Volumes Table

Solvent Volume	0 (ml)
Supporting Sol.	1 (ml)
Sample Volume	10 (ml)
Standard Conc.	1000 (mg/l)



Height Table

#	Peak Pot.	Height
0	-938.6	21.07 μA
1	-938.6	27.89 μA
2	-939.5	34.45 μA
3	-938.6	42.54 μA
4	-939.5	49.49 μA
5	-940.1	56.99 μA

Regression Data

#	Add.Conc.	Height x dilution
0	0 mg/l	23.18 μA
1	2.50 "	30.75 μA
2	5.00 "	38.07 μA
3	7.50 "	47.11 μA
4	10.0 "	54.94 μA
5	12.5 "	63.40 μA

$y = ax + b$
 $a = 3.231 \mu\text{A}^*/\text{mg}$
 $b = 22.71 \mu\text{A}$
 $r^2 = .9991$

