Thiourea in nickel and copper bath

Function: Differential Pulse Voltammetry (DPV/a)

Start Potential (mV)	-250
End Potential (mV)	300
Current range	1,024
Scan Speed (mV/s)	20
Number of cycles	3
Delay before sweep (s)	5
Purge and stir time (s)	120
Stirring speed (rpm)	300
Drop Size (a.u.)	60

Standard solution of nickel (or copper) bath
Prepare a solution having the same composition of the usual bath, avoiding the addition of thiourea. Alternatively, store 1 l of bath every time a fresh one is prepared, before the addition of thiourea.

Thiourea concentrated standard solution (1 g/l)
Dissolve 100 mg of pure thiourea in 10 ml of distilled water in a 100 ml volumetric flask. Add 10 ml of standard solution of nickel (or copper) bath and 1 ml of 96% H_2SO_4. Bring to volume with distilled water. Heat at the same working temperature of the bath for 30 minutes. Cool. Prepare the solution at the moment of the analysis.

Supporting electrolyte
96 % H_2SO_4.

Procedure
Pour 10 ml of distilled water in the cell, add 50 µl of 96% H_2SO_4 and 1 – 3 ml of sample.

Working standard solution (10 mg/l)
Pour 0.5 ml of Thiourea concentrated standard solution in a 50 ml volumetric flask, add 0.5 ml of 96% H_2SO_4 and 5 ml of standard solution of nickel (or copper) bath. Bring to volume with distilled water. Heat at the same working temperature of the bath for 30 minutes. Cool. Prepare the solution at the moment of the analysis.

Warnings
Deaerate the sample solution for 10 minutes and for 2 minutes, after each addition.

Analytical report

Analysis: Bagno di nichel n.
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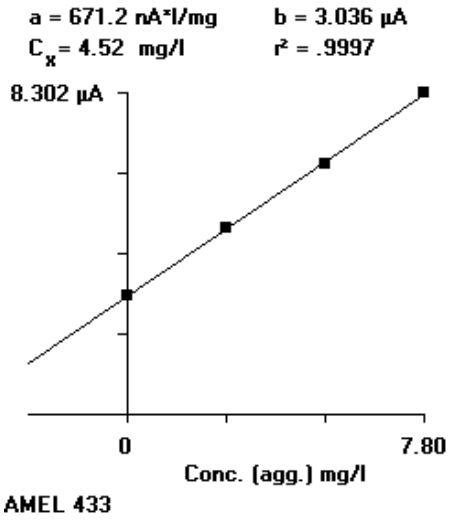
Sample Concentration = 4.52 mg/l
Method: 3 additions



Volumes Table

Solvent Volume	0 (ml)
Supporting Sol.	10.05 (ml)
Sample Volume	1 (ml)
Standard Conc.	13 (mg/l)

Height Table

#	Peak Pot.	Height
0	103.9	275.1 nA
1	110	426.9 nA
2	112.1	565.2 nA
3	110	712.5 nA

Regression Data

#	Add.Conc.	Height x dilution
0	0 mg/l	3.041 µA
1	2.60 "	4.803 µA
2	5.20 "	6.472 µA
3	7.80 "	8.302 µA

y = ax + b
a = 671.2 nA*l/mg
b = 3.036 µA
r^2= .9997