

## Boric acid in Nickel sulfamate bath

**Function: Differential Pulse Voltammetry (DPV/a)**

Start Potential (mV)	-1000
End Potential (mV)	-1800
Current range	20,24 $\mu$ A
Scan Speed (mV/s)	100
Number of cycles	3
Delay before sweep (s)	10
Purge and stir time (s)	10
Stirring speed (rpm)	300
Drop Size (a.u.)	60

**Boric acid ( $H_3BO_3$ ) concentrated standard solution (1 g/l)**

Dissolve 1g of boric acid in 1 l of distilled water, in a volumetric flask.

**Reagents**

**$KNO_3$**

**Mannitol**

**Procedure**

Pour in the cell 10 ml of distilled water, add 0.1 g of  $KNO_3$ , 0.8 g of mannitol and 0.1 ml of sample. Wait 30 minutes and deaerate for 3 minutes. Use concentrated standard solution for the additions.

**Warnings**

Carefully wash the whole glassworks to eliminate any trace of acidity.

Effect no more than 2 additions of 50  $\mu$ l of 1 g/l standard solution.

## Analytical Report

Analysis: sulfamate bath  
 Solution concentration = 0.54 g/l  
 Sample concentration: 54 g/l  
 Method: 2 addition

### Volumes table

Solvent volume	0 (ml)
Supporting Sol.	10 (ml)
Sample volume	0.2 (ml)
Standard conc.	2 (g/l)

### Heights table

#	Peak pot.	Height
0	-1488.2	1.562 $\mu\text{A}$
1	-1511.8	3.138 $\mu\text{A}$
2	-1523	4.466 $\mu\text{A}$

### Regression data

#	Add conc.	Height x dilution	
0	0 g/l	79.70 $\mu\text{A}$	$y = ax + b$
1	0.5	160.8 $\mu\text{A}$	$a = 150.3 \mu\text{A} \cdot \text{l/g}$
2	1	230.0 $\mu\text{A}$	$b = 81.69 \mu\text{A}$
			$r^2 = .9978$

