Mercury

Function: Square Wave Stripping Voltammetry (SQS)
Electrode: Rotating gold electrode (2 mm diameter)

Start Potential	**(mV)**	**-200**
End Potential	**(mV)**	**800**
Current range		**409.6 µA**
Scan Speed	**(mV/s)**	**50**
Wave period	**(mV)**	**6**
Wave increment	**(mV)**	**10**
Sampling time	**(s)**	**1**
Deposition time	**(s)**	**120**
Deposition Pot.	**(mV)**	**-200**
Number of cycles		**1**
Delay before sweep	**(s)**	**5**
Purge and stir time	**(s)**	**20**
Stirring speed	**(rpm)**	**500**
Drop Size	**(a.u.)**	**0**
Electrode type		**External**
Electrode speed rotation (rpm)		**3000**

Mercury concentrated standard solution (1 g/l)
Dissolve 1.0789 g of pure HgO in 1 ml of 65% HNO_3. Bring to volume in a 1 l volumetric flask with distilled water. (MM_{HgO} = 216.59; MM_{Hg}= 200.59).

Supporting Electrolyte
Dissolve 0.35 g of NaCl and 0.37 g of EDTA, di-sodium salt, in 70 ml of distilled water. Add 20 ml of 65% $HClO_4$. Bring to volume with distilled water, in a 100 ml volumetric flask

Procedure
Add 2 ml of supporting electrolyte to 20 ml of neutralised sample solution.

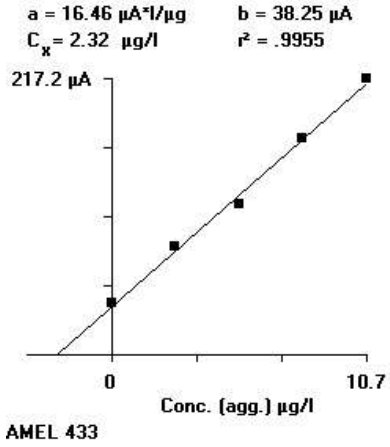
Working standard solution (1 mg/l)
Dilute 1+999 the concentrated standard solution with distilled water. Prepare the solution at the moment of the analysis.

Electrode cleaning
- Before starting a new working session:
  1900 mV for 60 s, then
  0 mV for 30 s, and finally
  1500 mV for 20 s
  Before each scanning: 1500 mV for 20 s

Warnings
Sample solutions containing organic substances have to be digested in closed system in order to avoid loss of mercury vapours.
Use a 300 s deposition time if the sample contains less than 2 µg/l of Hg.

Analytical Report

Analysis: Waste water
Sample Concentration = 2 µg/l
Method: 4 additions



Volumes Table

Solvent Volume	0 (ml)
Supporting Sol.	3 (ml)
Sample Volume	30 (ml)
Standard Conc.	1000 (µg/l)

Height Table

#	Peak Pot.	Height
0	410	36.78 µA
1	480	76.63 µA
2	480	106.8 µA
3	480	153.4 µA
4	490	195.5 µA

Regression Data

#	Add.Conc.	Height x dilution
0	0 µg/l	40.46 µA
1	2.67 "	84.50 µA
2	5.33 "	118.1 µA
3	8.00 "	170.0 µA
4	10.7 "	217.2 µA

$y = ax + b$
$a = 16.46$ µA*l/µg
$b = 38.25$ µA
$r^2 = .9955$