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**SAMPLE: Sodium Bromide**

**1) IDENTIFICATION REACTIONS OF IONS**

- **CATIONS** (*describe briefly reactions*): **Sodium**

Dissolve 0,1g of the substance to be examined in 2 ml of water R or use 2ml of the prescribed solution. Add 2ml of 150g/L solution of potassium carbonate R and heat to boiling. No precipitate is formed. Add 4ml of potassium pyroantimonate solution R to hear boiling. Allow to cool in iced water and if necessary, rub the inside of the test tube with a glass rod. A dense white precipitate is formed.

- **ANIONS** (*describe briefly reactions*): **Bromide**

Dissolve in 2ml of water R a quantity of the substance to be examined equivalent o about 3mg of bromide or use 2ml of the prescribed solution. Acidify with dilute nitric acid R and add 0,4ml of silver nitrate solution R1. Shake and allow to stand. A curdled, pale yellow precipitate is formed. Centrifuge and wash the precipitate with three quantities, each of 1ml, of water R. carry out this operation rapidly in subdued light sidregarding the fact that the supernatant solution may not become perfectly clear. Suspend the precipitate obtained in 2ml of water R and 1,5ml ammonia R. the precipitate dissolves with difficulty

**2) ASSAY**

**Volumetric solutions: 0,1M AgNO<sub>3</sub>**

**Titre of volumetric solutions: 0, 1 M AgNO<sub>3</sub> 0. 9998**

**0, 1 M NH<sub>4</sub>SCN 0. 9897**

Titration No.	m [g] ( <i>4 decimal places</i> )	Consumption of VS [ml]	ASSAY
1.	1. 9854	14. 57	54,81
2.	1. 8954	14.98	55,20
3.	2. 0045	14. 69	53,675

4.	2. 0215	14. 68	53,27
			Average 54,24

CALCULATION PROCEDURE:  $f_1=0,9998$   $f_2=0,9897$   $m=10,29$   $v_1=25\text{ml}$

ASSAY 1:

$Q=1,9854$  but in 10ml=198,54mg

$V_2=14,57\text{ml}$

$X(\%)=(25\text{ml}\cdot 0,9998-14,57\text{ml}\cdot 0,9897)\cdot 10,29\cdot 100/198,54$

$X(\%)= 54,81\%$

ASSAY 2:  $Q=1,8954$  in 10 ml = 189,54ml

$V_2=14,98$

$X(\%)= (25\text{ml}\cdot 0,9998-14,98\text{ml}\cdot 0,9897)\cdot 10,29\cdot 100/189,54$

$X(\%)=55,2\%$

ASSAY 3:  $Q=2,0045$  in 10 ml= 200,45mg

$V_2=14,69$

$X(\%)=(25\text{ml}\cdot 0,9998-14,69\cdot 0,9897)\cdot 10,29\cdot 100/200,45$

$X(\%)=53,675$

ASSAY 4: $Q=2,0215$  in 10ml= 202,15mg

$V_2=14,68$

$X(\%)=(25\text{ml}\cdot 0,9998-14,68\cdot 0,9897)\cdot 10,29\cdot 100/202,15$

$X(\%)=53,27$

**STATISTICAL EVALUATION:****Range:**

$$R = x_{\max} - x_{\min} = 55,20 - 53,27 = 1,93$$

**Standard deviation (estimated from range):**

$$sd = K_4 * R = 0,4857 * 1,93 = 0,937$$

**Relative standard deviation:**

$$RSD = (sd / \text{average}) * 100 =$$

$$0,937 / 54,24 * 100 = 1,7282$$

**CONCLUSION** (*does your sample meet/not meet Ph. Eur*): **no it does not meet ph.eur because is ours is just 54,24 less than pharmacopoeia.**