**ASSAY Marianna Christodoulidou-F16183**

**Analyt:** Sodium Carbonate Decahydrate

**Volumetric solution:** 1M Hydrochloric acid

**Titre of volumetric solution:** 1.0054

**Type of titration:** Acid base titration

|  |  |  |  |
| --- | --- | --- | --- |
| **Titration No.** | **m [g]** *(4 decimal places) or* **V [ml]** | **Consumption of VS [ml]** | **ASSAY** |
| **1.** | 1.0111g | 6.98ml | 36.78 |
| **2.** | 1.0054g | 6.75ml | 35.77 |
| **3.** | 1.0068g | 6.55ml | 34.66 |
| **4.** | 1.0005g | 6.52ml | 34.72 |
| **Average** | | | 35.48 |

**STATISTICAL EVALUATION:**

**Range: R =** Xmax-Xmin= 36.78-34.66= **2.12**

**Standard deviation** *(estimated from range)***: sd =** Kn\*R = k4\*2.12= 0.4857\*2.12= **1.0297**

**Relative standard deviation: RSD =**(SD/AVERAGE)\*100 = (1.0297/35.48)\*100**= 2.9022**

**Equations for Assay:**

1. **𝑥 (%)= (V∗f∗m∗100)/q**

X=(6.98ml\*1.0054\*52.99mg\*100)/1011.1mg

=36.78

1. **𝑥 (%)= (V∗f∗m∗100)/q**

X=(6.75\*1.0054\*52.99\*100)/1005.4 =35.77

1. **𝑥 (%)= (V∗f∗m∗100)/q**

X=(6.55\*1.0054\*52.99\*100)/1000.5 = 34.72

**CONCLUSION** *(does your sample meet/not meet Ph. Eur).***:**

I think it doesn’t meet pharmacopeia because our content is says that Na2CO3 is about 36.7-40% but we found just one sample at this range, the rest are lower. Our average is 35.48% is lower than the above range. So maybe it doesn’t meet pharmacopeia.