**REPORT**

**EXERCISE 1**

**CHEMICAL KINETICS**

**NAME:** **GROUP:**

**DATE OF EXERCISE:**

**EXERCISE TOPIC:** Kinetics of the hydrolysis reaction.

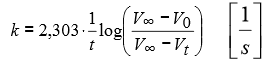
**OBJECTIVE OF THE EXERCISE:** Determination of the hydrolysis rate constant of ethyl acetate in an acidic environment.

**1. Table 1 – Results obtained during the exercise.**  
...

**2. Table 2 – Calculation of the reaction rate constant**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **t [s]** | **V NaOH [ml]** | **log (V∞-V0  / V∞-Vt)** | **k [1/s]** |
| **t1** |  |  |  |  |
| **t2** |  |  |  |  |
| **t3** |  |  |  |  |
| **t4** |  |  |  |  |
| **t5** |  |  |  |  |
| **kmean** | | |  | |

Values of rate constant (k) calculated according to the equation:



where   
V∞ - volume of NaOH [ml] used for titration corresponding to complete reaction  
V0 - volume of NaOH [ml] used for the first titration  
Vt - volume of NaOH [ml] used for titration after time t

**Example calculations**

…

**3. Table 4 – Calculation of the reaction rate**

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **t [s]** | **V∞ - Vt** | **v [ml/s]** |
| **t1** |  |  |  |
| **t2** |  |  |  |
| **t3** |  |  |  |
| **t4** |  |  |  |
| **t5** |  |  |  |

Reaction rate values (v) calculated according to the equation:

v = kmean∙(V∞ - Vt)

**Example calculations**

**…**

**4. Graph of the dependence of reaction rate on time**

…

**5. Conclusions**

…