

Practical work N°:02

PREPARATION OF SOLUTIONS

1- Objective:

a- Preparation of a sulfuric acid solution (H_2SO_4) with a concentration of 0.26 mol/l from a commercial solution at 99% by weight.

b- Verification of the molarity of the prepared solution.

2- Materials :

Erlenmayer (50 ml), volumetric flask (100ml), pipette, test tube, graduated burette, beakers and dropper.

3- Products used:

Concentrated commercial sulfuric acid (99%), ($d=1.83$), 1N potassium hydroxide (KOH) or sodium hydroxide (NaOH) solution, colored indicators and distilled water.

4- Operating mode:

a- Preparation of a solution of H_2SO_4 (A) 0.26 mol/l:

- Make all the necessary calculations to determine the volume V of commercial H_2SO_4 to prepare 100ml of H_2SO_4 0.26 mol/l.
- In a 100ml volumetric flask, put a little distilled water. Using a pipette, take the calculated volume V of H_2SO_4 then add it to the vial. Top up with distilled water to the mark (gauge mark) and close.

b- Verification of the normality of the H_2SO_4 solution prepared:

- Take 10ml of solution (A) using a pipette and put it in an Erlenmayer.
- Add 2 to 3 drops of the colored indicator.
- Rinse the burette with a few ml of the 1N KOH solution and fill it with this same solution.
- Pour the basic solution drop by drop onto the acidic solution until the color changes.
- Repeat the operation 3 times to ensure results (the difference between the volumes must not be greater than 0.1ml).