

PRE-LAB DISCUSSION

Every year we are doing experiment in our laboratory. At that experiment we are going to learn how to prepare a solution of different solvents with known concentration.

PURPOSE

To prepare known concentration solutions.

EQUIPMENT	250 ml Erlenmeyer	10 ml graduated cylinder	flask	Pipette
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MATERIALS	NaOH (solid)	HCl (stock)	distilled water
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PROCEDURE

While doing experiment use your notebook.

PART A: Preparation of 0.4 M of 250 ml NaOH solution.

NaOH is solid substance... Molecular weight of NaOH is 40 g/mol.

1. Before starting experiment firstly calculate how many moles of NaOH you need at that experiment. At the calculation find the mole number of NaOH from givens. (0.4M of 250 ml NaOH)
2. After finding mole number of NaOH, calculate the mass of NaOH that you need.
3. Measure the mass of NaOH that you need by using balance.

4. Transfer NaOH in to 250 ml volumetric flask.
5. Add approximately 50 ml of water and shake.
6. Then add water till the volume of the solution will become 250 ml.
7. Your solution is 250 ml and 0.4 M now.

PART B: Preparation of 0.4 M of 250 ml HCl solution

HCl is gas at room temperature, because of that we are using concentrated HCl acid solution in laboratory. This concentrated solution is called stock solution. On the label of HCl solution in our laboratory, following information is given ...

<p style="text-align: center;">HCl</p> <p>Molecular Weight (HCl) : 36.5 g/mol Density: 1.2 g/ml Percentage of HCl : 36.5 %</p>
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1. Before starting experiment firstly calculate how many moles of HCl you need at that experiment. At the calculation find the mole number of HCl from givens. (0.4M of 250 ml HCl)
2. After finding mole number of HCl, calculate the mass of HCl that you need.
3. Percentage of the stock solution is given (36.5 %). Calculate how many grams of stock solution contains ____ grams (your result at number 2) of HCl.
4. Know you found mass of stock solution that you need. Find the volume of this solution that you need. (density:1.2 g/ml)
5. By using graduated cylinder measure ____ ml (your result at number 4)stock solution and transfer into 250 ml erlenmeyer flask.
6. Add water till the volume will become 250 ml.
7. Your solution is 250 ml and 0.4 M now.

QUESTIONS

1. How can you prepare 1 M of 400 ml KOH solution?
2. How can you prepare 2 M of 200 ml HNO_3 solution from 63 % stock solution of HNO_3 which has a density of 1.4 g/ml?