

Answer on Question#40108 - Chemistry - Other

How do you prepare 50.0 ml of .03 M concentrated hydrochloric acid.calculate the amount needed,the dilution scheme and actual final concentration?

Solution.

The amount of HCl:

$$C_1V_1 = C_2V_2$$

We need to find the volume of 1 M HCl, which will be dilute.

$$V_2 = C_1V_1/C_2$$

$$V_2 = 0.03 \text{ M} * 0.05 \text{ L} / 1 \text{ M} = 0.0015 \text{ L}$$

So, we take 1.5 mL of 1 M solution HCl and diluted to 50 ml. Concentration of the solution will be 0.03 M