

Answer on the question #54295 – Chemistry – General chemistry

Question:

A solution contains 4 grams of sodium hydroxide in 250ml of solution. If Na=23, O=16 , H=1 and 1cm³ of water weighs 1g, what is the concentration of the solution in weight per weight percent?

2.81%

1.92%

1.57%

3.29%

Answer:

By definition, weight per weight percentage is:

$$\omega = \frac{m(\text{NaOH})}{m(\text{solution})} \times 100\%$$

Then, if we neglect the volume of sodium hydroxide comparatively to the volume of water:

$$\omega = \frac{4}{250 + 4} \times 100\% = 1.57\%$$

Thus, the concentration of the solution is: 1.57%