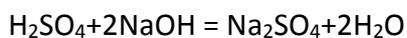


## Answer on Question #34706, Chemistry, Other

### Task:

A solution contains 50 g/dm<sup>3</sup> of impure sodium hydroxide. 25 cm<sup>3</sup> of it got neutralised by 14 cm<sup>3</sup> of sulfuric acid. Sulfuric acid = 1 mol/dm<sup>3</sup>



-No. Of moles of sulfuric acid present in 14 cm<sup>3</sup> of the solution.

-Concentration of sodium hydroxide

-Percentage purity of sodium hydroxide

### Answer:

$$C = \frac{v}{V} \quad v = CV$$

$$v(\text{H}_2\text{SO}_4) = 1 \cdot \frac{14}{1000} = 0.014 \text{ mol}$$

$$v(\text{NaOH}) = 2 \cdot v(\text{H}_2\text{SO}_4)$$

$$v(\text{NaOH}) = 2 \cdot 0.014 = 0.028 \text{ mol}$$

$$C(\text{NaOH}) = \frac{v(\text{NaOH})}{V(\text{NaOH})} = \frac{0.028}{0.025} = 1.12 \text{ mol/l}$$

$$v = \frac{m}{M} \quad M(\text{NaOH}) = 40 \text{ g/mol}$$

$$C(\text{NaOH}) = 1.12 \cdot 40 = 44.8 \text{ g/l}$$

$$\% \text{NaOH} = \frac{44.8}{50} \cdot 100 = 89.6\%$$