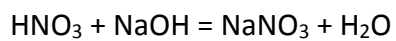


Answer on Question #42320, Chemistry, Other

Task:

What quantity of 0.25 M HNO₃ can be neutralized by 0.10 liters of 0.50 M NaOH?

Answer:



$$\tilde{N}_M = \frac{v}{V} \quad V = \frac{v}{\tilde{N}_M} \quad v = \tilde{N}_M \cdot V$$

where C_M – molarity of a solution, M;

v – amount of moles of a substance, moles;

V – volume of a solution, l.

According to the equation, the amount of HNO₃ moles is equal to the amount of NaOH moles.

That is why:

$$C_M(\text{HNO}_3) \cdot V(\text{HNO}_3) = C_M(\text{NaOH}) \cdot V(\text{NaOH})$$

$$V(\text{HNO}_3) = \frac{C_M(\text{NaOH}) \cdot V(\text{NaOH})}{C_M(\text{HNO}_3)}$$

$$V(\text{HNO}_3) = \frac{0.10 \cdot 0.50}{0.25} = 0.20 \text{ l}$$