Answer on Question #54283 – Chemistry – General Chemistry

Task:

Calculate the number of mole contained in a solution of sulphuric acid, if the titre value on titration against 20 cm^3 0.5 M sodium carbonate is 20.24 cm^3:

0.02 mol

0.04 mol

0.01 mol

0.15 mol

Answer:

$H_2SO_4 + Na_2CO_3 = Na_2SO_4 + H_2O + CO_2$

Titre =

$$C_M = \frac{v}{V} \qquad v = C_M \cdot V$$

$$v(H_2SO_4) = v(Na_2CO_3)$$

$$v(H_2SO_4) = C_M(H_2SO_4) \cdot V(H_2SO_4) = 0.5 \cdot 0.02$$

$$v(H_2SO_4) = 0.01 moles$$

So, the number of moles contained in a solution of sulphuric acid is 0.01 moles.