

Answer on Question #70481– Chemistry – General Chemistry

Task

Calculate the concentration in mol dm⁻³ of 49.0g of sulphuric acid in 250cm³ of solution.

Solution

Molar mass of sulphuric acid is 98.08 g/mol.

$$v(H_2SO_4) = \frac{m(H_2SO_4)}{M(H_2SO_4)} = \frac{49.0}{98.08} = 0.4995 \sim 0,50 \text{ mol.}$$

$$c(H_2SO_4) = \frac{v(H_2SO_4)}{V(H_2SO_4)} = \frac{0.50 \text{ mol}}{0.250 \text{ l}} = 2 \frac{\text{mol}}{\text{l}} = 2 \text{ mol/dm}^3$$

Answer

2mol/dm³.

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