

Solutions

2.1 $0.500 \text{ dm}^3 \times 0.200 = 0.100 \text{ mol}$.

2.2 $0.005 \div 0.0250 \text{ dm}^3 = 0.200 \text{ mol/dm}^3$.

2.3 Two.

3.1 Moles $\text{Ba(OH)}_2 = 0.100 \times 0.02350 = 2.35 \times 10^{-3}$; ratio 1 : 2, so moles $\text{HCl} = 4.70 \times 10^{-3}$; volume acid = 0.02500 dm^3 ; $C = 4.70 \times 10^{-3} \div 0.02500 = 0.188 \text{ mol/dm}^3$.

3.2 Moles = $13.25 \div 106 = 0.125$; volume = 0.250 dm^3 ; $C = 0.125 \div 0.250 = 0.500 \text{ mol/dm}^3$.

3.3 Discard 24.60; mean = $(21.10 + 21.15 + 21.20) \div 3 = 21.15 \text{ cm}^3$; = 0.02115 dm^3 ; moles = $0.100 \times 0.02115 = 2.115 \times 10^{-3} \approx 2.12 \times 10^{-3} \text{ mol}$.