

C. C. C. Heep Woh College
Form 4 Chemistry Quiz 6
Unit 13 : Basic Chemical Calculation II

Suggested Answer

1. No. of mole of CuSO_4 needed = $(250/1000) \times 1.5 = 0.375 \text{ mol}$ 1
Mass of hydrated $\text{CuSO}_4 = 0.375 \times (63.5 + 32 + 64 + 5 \times 18) = 93.56 \text{ g}$ 1,1
2. No. of mole of $\text{Mg}_3\text{N}_2 = 2.5 \times 1 = 2.5 \text{ mol}$ 1
Total no. of ions = $2.5 \times 5 \times 6 \times 10^{23} = 7.5 \times 10^{24}$ 1,1
3. No. of mole of HCl needed = $0.625 \times 50 / 1000 = 0.03125 \text{ mol}$ 1
Volume of HCl needed = $0.03125 / 2 = 0.0156 \text{ dm}^3$ 1,1
4. **Given:** $2\text{H}_2\text{O}_2(\text{aq}) \longrightarrow 2\text{H}_2\text{O}(\text{l}) + \text{O}_2(\text{g})$
No. of mole of $\text{H}_2\text{O}_2 = 0.75 \times 20 / 1000 = 0.015 \text{ mol}$ 1
No. of mole of O_2 produced = $0.015 / 2 = 0.0075 \text{ mol}$ 1
Volume of O_2 obtained = $0.0075 \times 22.4 = 0.168 \text{ dm}^3$ 1