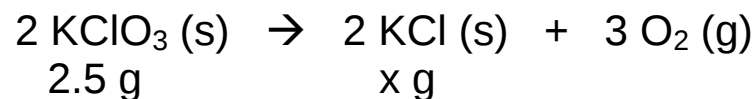




1. How many grams of O₂ is produced if 2.50 g of KClO₃ is completely decomposed by heating?

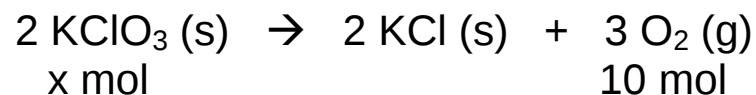
$$\text{x g O}_2 = 2.5 \text{ g KClO}_3 \times \frac{(1 \text{ mol KClO}_3)}{(122.5 \text{ g KClO}_3)} \times \frac{(3 \text{ mol O}_2)}{(2 \text{ mol KClO}_3)} \times \frac{(32 \text{ g O}_2)}{(1 \text{ mol O}_2)} = 0.98 \text{ g O}_2$$

2. How many grams of KCl is produced if 2.50 g of KClO₃ is decomposed?



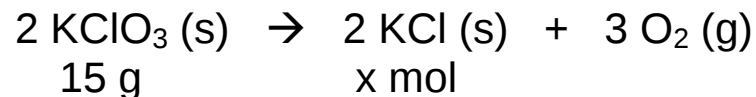
$$\text{x g KCl} = 2.5 \text{ g KClO}_3 \times \frac{(1 \text{ mol KClO}_3)}{(122.5 \text{ g KClO}_3)} \times \frac{(2 \text{ mol KCl})}{(2 \text{ mol KClO}_3)} \times \frac{(74.5 \text{ g KCl})}{{(1 \text{ mol KCl})}} = 1.52 \text{ g KCl}$$

3. How many moles of KClO₃ is used to produce 10 moles of O₂?



$$\text{x mol KClO}_3 = 10 \text{ mol O}_2 \times \frac{(2 \text{ mol KClO}_3)}{(3 \text{ mol O}_2)} = 6.7 \text{ mol KClO}_3$$

4. How many moles of KCl is produced if 15 g of KClO₃ is used?



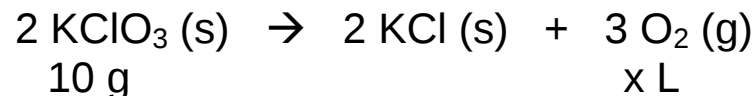
$$x \text{ mol KCl} = 15 \text{ g KClO}_3 \times \frac{(1 \text{ mol KClO}_3)}{(122.5 \text{ g KClO}_3)} \times \frac{(2 \text{ mol KCl})}{(2 \text{ mol KClO}_3)} = 0.12 \text{ mol KCl}$$

5. How many liters of O₂ is produced if 5 moles of KClO₃ is used?



$$x \text{ L O}_2 = 5 \text{ mol KClO}_3 \times \frac{(3 \text{ mol O}_2)}{(2 \text{ mol KClO}_3)} \times \frac{(22.4 \text{ L O}_2)}{(1 \text{ mol O}_2)} = 168 \text{ L O}_2$$

6. How many liters of O₂ is produced if 10 g of KClO₃ is used?



$$x \text{ L O}_2 = 10 \text{ g KClO}_3 \times \frac{(1 \text{ mol KClO}_3)}{(122.5 \text{ g KClO}_3)} \times \frac{(3 \text{ mol O}_2)}{(2 \text{ mol KClO}_3)} \times \frac{(22.4 \text{ L O}_2)}{(1 \text{ mol O}_2)} = 2.74 \text{ L O}_2$$

