

$$m_{KNO_3} = \frac{6}{8} \cdot 1000 = 750g \Rightarrow \nu_{KNO_3} = 7,43 \text{ moli}$$

$$m_C = \frac{1}{8} \cdot 1000 = 125g \Rightarrow \nu_C = 10,417 \text{ moli} \quad \Rightarrow KNO_3 \text{ și S sunt în exces}$$

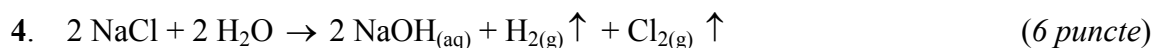
$$m_S = \frac{1}{8} \cdot 1000 = 125g \Rightarrow \nu_S = 3,91 \text{ moli}$$

$$\nu = \frac{4 \cdot 10,417}{3} = 13,89 \text{ moli (N}_2 + \text{CO}_2)$$

$$p = \frac{\nu RT}{V} = \frac{13,89 \cdot 0,082 \cdot 572}{2} = 326,317 \text{ atm}$$

3. $m_o = m_{\text{oxid}} - m_{\text{Me}} = 0,1633g$ (5 puncte)

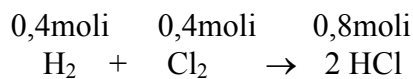
$$E_{\text{Me}} = \frac{E_o \cdot m_{\text{Me}}}{m_o} = 12 \Rightarrow \text{Me} = \text{Mg}$$



$$\nu_{H_2} = \nu_{Cl_2} = \frac{1 \cdot 9,545}{0,082 \cdot 291} = 0,4 \text{ moli}$$

$$\mu_{Cl_2} = \frac{28,362}{0,4} = 70,905 \text{ g/mol} \Rightarrow A_{Cl} = 35,4525 \Rightarrow 77,375\% \text{ } ^{35}\text{Cl};$$

22,625% ^{37}Cl .

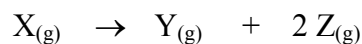


$$m_{HCl} = 0,8 \cdot 36,5 = 29,2g$$

$$m_{S(HCl)} = \frac{29,2 \cdot 100}{36} = 81,11g$$

$$V_S = \frac{81,11}{1,18} = 68,74 \text{ cm}^3$$

5. $\nu \frac{\eta}{100} \quad \nu \frac{\eta}{100} \quad 2 \nu \frac{\eta}{100}$ (4 puncte)



$$\nu_i = \nu$$

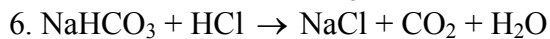
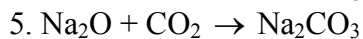
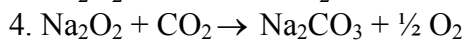
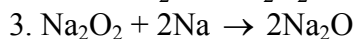
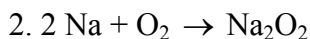
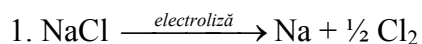
$$\nu_f = \nu_x + \nu_y + \nu_z = (\nu - \frac{\nu\eta}{100}) + \frac{\nu\eta}{100} + 2 \frac{\nu\eta}{100} = \nu (1 + \frac{2\eta}{100})$$

$$\frac{p_i}{p_f} = \frac{\nu_i}{\nu_f} \Rightarrow \eta = 15\%$$

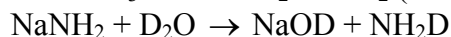
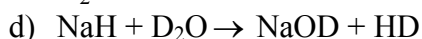
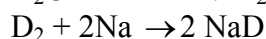
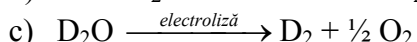
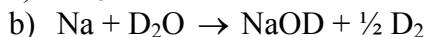
Subiectul III: 20 puncte**1.***(5 puncte)*

a: NaCl

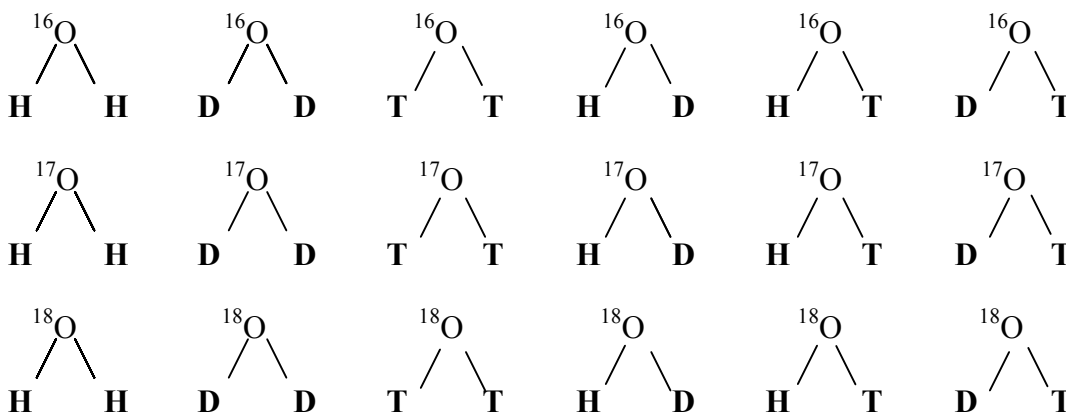
b: Na

c: Cl₂d: O₂e: Na₂O₂f: CO₂g: Na₂CO₃h: NaHCO₃

Aplicație: reacția (4): împrăștierea aerului în spații închise.

2.*(5 puncte)***3.***(5 puncte)*

18 specii (izotopomeri)



În urma reacției dintre potasiu și clor se obține o singură specie (izotopomer) – rețea ionică.

