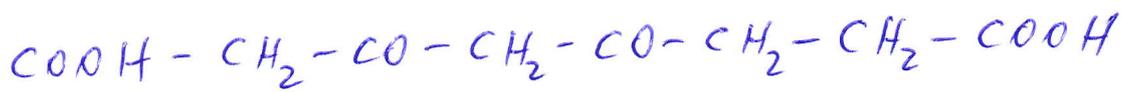




① Fórmula semidesarrollada:



②  $M = 6 \cdot 12 + 7 \cdot 1 + 2 \cdot 16 = 111 \frac{\text{g}}{\text{mol}}$

$$V = \frac{m}{d} = \frac{50}{1/32} = \boxed{37'9 \text{ mL}}$$

$$n = \frac{m}{M} = \frac{50}{111} = 0'451 \text{ mol}$$

$$N = n \cdot N_A = 0'451 \cdot 6'022 \cdot 10^{23} = \boxed{2'72 \cdot 10^{23} \text{ moléculas}}$$

③  $M = 2 \cdot 55'85 + 3 \cdot 32 + 12 \cdot 16 = 399'7 \frac{\text{g}}{\text{mol}}$

$$n = \frac{m}{M} = \frac{100}{399'7} = 0'25 \text{ mol}$$

$$n_{\text{Fe}} = 2 \cdot 0'25 = \boxed{0'5 \text{ mol Fe}}$$

$$N_{\text{O}} = 12 \cdot 0'25 \cdot 6'022 \cdot 10^{23} = \boxed{1'81 \cdot 10^{24} \text{ átomos O}}$$

$$\textcircled{4} \quad \text{Fe: } \frac{2 \cdot 55,85 \cdot 100}{399,7} = \boxed{28\%}$$

$$\text{S: } \frac{3 \cdot 32 \cdot 100}{399,7} = \boxed{24\%}$$

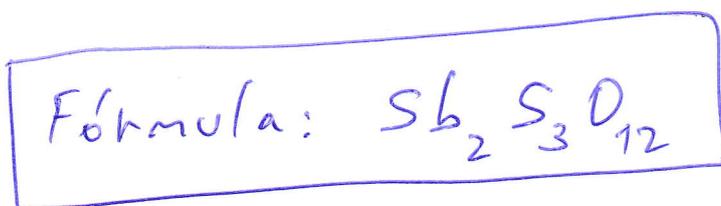
$$\text{O: } 100 - 28 - 24 = \boxed{48\%}$$

$$\textcircled{5} \quad \text{O: } 100 - 45,8 - 18,1 = 36,1\%$$

$$\text{Sb: } \frac{45,8}{121,76} = 0,376 \rightarrow \frac{0,376}{0,376} = 1 \xrightarrow{\times 2} 2$$

$$\text{S: } \frac{18,1}{32} = 0,566 \rightarrow \frac{0,566}{0,376} \approx 1,5 \xrightarrow{\times 2} 3$$

$$\text{O: } \frac{36,1}{16} = 2,26 \rightarrow \frac{2,26}{0,376} \approx 6 \xrightarrow{\times 2} 12$$



$$\textcircled{6} \quad M = 2 \cdot 16 = 32 \frac{\text{g}}{\text{mol}}$$

$$m = 32 \frac{\text{g}}{\text{mol}} \cdot \frac{1 \text{ mol}}{6'022 \cdot 10^{23} \text{ moléculas}} = \boxed{531 \cdot 10^{-23} \frac{\text{g}}{\text{molécula}}}$$

$\textcircled{7}$  \* Masa de disolución:

$$m_D = d_D \cdot V_D = 1'1 \frac{\text{g}}{\text{cm}^3} \cdot 40 \text{ cm}^3 = 44 \text{ g disolución}$$

\* Masa de soluto:

$$m_s = \frac{m_D \cdot \text{Perc}}{100} = \frac{44 \cdot 53}{100} = \boxed{23'3 \text{ g soluto}}$$

$\textcircled{8}$  40%  $\rightarrow$   $\left\{ \begin{array}{l} 40 \text{ g soluto (HClO}_4) \\ 100 \text{ g disolución} \end{array} \right.$

$$V_D = \frac{m_D}{d_D} = \frac{100}{1'2} = 83'3 \text{ mL}$$

$$M_s = 1 + 35'5 + 16 \cdot 4 = 100'5 \frac{\text{g}}{\text{mol}}$$

$$n_s = \frac{m_s}{M_s} = \frac{40}{100'5} = 0'398 \text{ mol}$$

$$C_M = \frac{n_s}{V_D} = \frac{0'398 \text{ mol}}{0'0833 \text{ L (3)}} = \boxed{4'78 \text{ M}}$$