

449. Kolika je količinska koncentracija (mol/dm^3) rastvora kalijum-hidroksida kod koje je maseni udeo $\omega=0,35$ a gustina $1,345\text{g/cm}^3$. (K-39)

$$Mr(\text{KOH}) = 56$$

$$M(\text{KOH}) = 56 \frac{\text{g}}{\text{mol}}$$

$$\omega = 0.35 = 35\%$$

$$35\text{g}(\text{KOH}) \rightarrow 100\text{g}(\text{rastvora})$$

$$m(\text{rastvora}) = 100\text{g}$$

$$\rho(\text{rastvora}) = 1.345 \frac{\text{g}}{\text{cm}^3}$$

$$\rho(\text{rastvora}) = \frac{m(\text{rastvora})}{V(\text{rastvora})}$$

$$V(\text{rastvora}) = \frac{m(\text{rastvora})}{\rho(\text{rastvora})}$$

$$V(\text{rastvora}) = 74.35\text{cm}^3$$

$$V(\text{rastvora}) = 0.074\text{dm}^3$$

$$m(\text{KOH}) = 35\text{g}$$

$$M(\text{KOH}) = 56 \frac{\text{g}}{\text{mol}}$$

$$n = \frac{m}{M}$$

$$n = 0.625\text{mol}$$

$$c = \frac{n}{V}$$

$$c = \frac{0.625\text{mol}}{0.074\text{dm}^3}$$

$$c = 8.4 \frac{\text{mol}}{\text{dm}^3}$$
