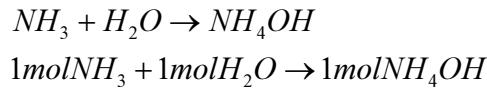


491. Odrediti količinsku koncentraciju (mol/L) rastvora amonijum-hidroksida dobijanjem "rastvaranjem" 2,24 litara amonijaka (merenog na 20°C i normalnom pritisku) u 300 mililitara vode (smatra se da nije došlo do promene zapremine rastvarača usled rastvaranja gasa).



$$\begin{aligned} 1\text{mol}NH_3 &\rightarrow 22.4\text{dm}^3 \\ x\text{mol}NH_3 &\rightarrow 2.24\text{dm}^3 \end{aligned}$$

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$$x = 0.1\text{mol}NH_3$$

$$\begin{aligned} 1\text{mol}NH_3 + 1\text{mol}H_2O &\rightarrow 1\text{mol}NH_4OH \\ 1\text{mol}NH_3 &\rightarrow 1\text{mol}NH_4OH \\ 0.1\text{mol}NH_3 &\rightarrow 0.1\text{mol}NH_4OH \end{aligned}$$

$$\begin{aligned} n(NH_4OH) &= 0.1\text{mol}NH_4OH \\ V &= 300\text{ml} = 300\text{cm}^3 = 0.3\text{dm}^3 \end{aligned}$$

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$$\begin{aligned} c &= \frac{n}{V} \\ c &= \frac{0.1\text{mol}}{0.3\text{dm}^3} \\ c &= \frac{1\text{mol}}{3\text{dm}^3} \\ c &= 0.33 \frac{\text{mol}}{\text{dm}^3} \end{aligned}$$