

$$\rho = \frac{m}{V} \qquad n = \frac{m}{M} = \frac{\text{masa}}{\text{molarna...masa}} \qquad M = M_r \cdot \text{gmol}^{-1}$$

$$L = N_A = \left(\frac{N}{n} \right) = 6,022 \cdot 10^{23} \text{ mol}^{-1} \qquad \text{BROJNOST} \Rightarrow N = n \cdot N_A$$

Kvantitativni sastav otopina

$$c_B = \frac{n_B}{V} \qquad \gamma_B = \frac{m_B}{V} \qquad b_B = \frac{n_B}{m_A} \qquad x_B = \frac{n_B}{\sum n_i} \qquad w_B = \frac{m_B}{\sum m_i} \qquad \varphi w_B = \frac{V_B}{\sum V_i}$$

Gay-Lussacovi zakoni

$$p = \text{konst} \qquad \frac{V}{T} = \text{konst} \qquad \frac{V}{T} = \frac{V_1}{T_1} \qquad V = \text{konst} \dots \dots \frac{P}{T} = \text{konst} \dots \dots \frac{P}{T} = \frac{P_1}{T_1}$$

Boyle Mariotte + Gay-Lussacov zakon

$$\frac{pV}{T} = \frac{p_1V_1}{T_1}$$

$$V_m^o = \frac{V^o}{n} = 22,4 \text{ dm}^3 \text{ mol}^{-1} \dots \dots \text{molarni..volumen}$$

Opća plinska jednažba

$$R = \frac{p^o V_m^o}{T^o} = \frac{101325 \text{ Pa} \cdot 22,4 \cdot 10^{-3} \text{ m}^3 \text{ mol}^{-1}}{273 \text{ K}} = 8,314 \text{ J mol}^{-1} \text{ K}^{-1} \qquad pV_m = RT \qquad pV = nRT$$

Ravnoteža kemijskih reakcija

$$nA + mB \leftrightarrow pC + aD$$

$$v_{\rightarrow} = v_1 = k_1 \cdot [A]^n [B]^m \qquad v_1 = v_2 \dots \dots k_1 \cdot [A]^n [B]^m = k_2 \cdot [C]^p [D]^q$$

$$v_{\leftarrow} = v_2 = k_2 \cdot [C]^p [D]^q \qquad \frac{[C]^p [D]^q}{[A]^n [B]^m} = \frac{k_1}{k_2} = K$$

Ionski produkt vode

$$H_2O \leftrightarrow H^+ + OH^- \dots \dots K = \frac{[H^+][OH^-]}{[H_2O]} \dots \dots K \cdot [H_2O] = [H^+][OH^-] = K_w = 10^{-14} \text{ mol}^2 \text{ dm}^{-6}$$

$$[H^+] = [OH^-] = 10^{-7} \text{ mol dm}^{-3}$$

Vodikov eksponent pH (Sorensen)

$$pH = -\log[H^+] / \text{mol dm}^{-3} \qquad pOH = 14 - pH$$

Hess-ov zakon

$$(\text{promjena entalpije}) = (\text{entalpija produkata}) - (\text{entalpija reaktanata})$$