

Formules utiles

$$K_w = [H^+][OH^-] = 10^{-14}$$

$$1 \text{ m}^3 = 1000 \text{ L}$$

$$\text{pH} = -\log_{10}[H^+]$$

$$K_a K_b = K_w$$

$$\mu = \frac{1}{2} \sum_i C_i Z_i^2$$

$$\log_{10} \gamma_i = -0.51 Z_i^2 \sqrt{\mu} \quad \text{à } 25^\circ\text{C}$$

$$a_i = \gamma_i [X_i] \quad \text{pour la substance } i$$

$$[H^+] = \frac{-K_a + \sqrt{K_a^2 + 4K_a[HA]_0}}{2} \approx \sqrt{K_a[HA]_0}$$

$$[OH^-] = \frac{-K_b + \sqrt{K_b^2 + 4K_b[B]_0}}{2} \approx \sqrt{K_b[B]_0}$$

$$[H^+] = K_a \frac{[HA]}{[A^-]}$$

$$\text{pH} = \text{p}K_a + \log_{10} \left(\frac{[A^-]}{[HA]} \right)$$

$$[H^+] = \sqrt{\frac{K_{a2} C_{\text{NaHA}} + K_w}{1 + C_{\text{NaHA}}/K_{a1}}}$$

$$\alpha_0 = \frac{[H^+]^2}{[H^+]^2 + K_1[H^+] + K_1K_2}$$

$$\alpha_1 = \frac{K_1[H^+]}{[H^+]^2 + K_1[H^+] + K_1K_2}$$

$$\alpha_2 = \frac{K_1K_2}{[H^+]^2 + K_1[H^+] + K_1K_2}$$