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osmotic pressure, Π

Excess pressure required to maintain osmotic equilibrium between a solution and the pure solvent separated by a membrane permeable only to the solvent:

$$\Pi = -\frac{R\,T}{V_{\mathrm{A}}} \ln a_{\mathrm{A}}$$

where V_{A}, a_{A} are the partial molar volume and activity of solvent A for an incompressible fluid. For ideal dilute solutions, $\Pi = c_{\mathrm{B}}\,R\,T = \rho_{\mathrm{B}}\,\frac{R\,T}{M_{\mathrm{B}}}$, where entities B are individually moving solute molecules, ions, etc., regardless of their nature, c_{B}, ρ_{B} are the amount and mass concentration of the solutes, and M_{B} is the mass average molar mass of the solutes. The amount is sometimes expressed in osmol (meaning a mole of osmotically active entities), but this usage and the corresponding term osmolarity are discouraged.

Source:
Green Book, 2nd ed., p. 51
Green Book, 3rd ed., p. 59

