

mean activity of an electrolyte in solution

Defined by the equation:

$$a_{\pm} = e^{(\mu_B - \mu_B^{\ominus}) / RT}$$

where μ_B is the chemical potential of the solute B in a solution containing B and other species. The nature of B must be clearly stated: it is taken as a group of ions of two kinds carrying an equal number of positive and negative charges, e.g. $\text{Na}^+ + \text{NO}_3^-$ or $\text{Ba}^{2+} + 2\text{Cl}^-$ or $2\text{Al}^{3+} + 3\text{SO}_4^{2-}$. ν is the total number of ions making up the group i.e. 2, 3 and 5 respectively in the above examples. μ_B^{\ominus} is the chemical potential of B in its standard state, usually the hypothetical ideal solution of concentration 1 mol kg^{-1} and at the same temperature and pressure as the solution under consideration.

See also: activity

Source:

PAC, 1974, 37, 499 (*Electrochemical nomenclature*) on page 510