

diffusion potential

For an ideal dilute solution, $\Delta\Phi_d$ is the integral of $\nabla\Phi$ (given by the following equation) across the boundary between two regions of different concentrations.

$$\nabla\Phi = \frac{RT \sum D_i z_i \nabla c_i}{F \sum s_i^2 D_i c_i}$$

where D_i is the diffusion coefficient of species i , z_i is the charge number of species i , c_i is the concentration of species i , R is the gas constant, T is the thermodynamic temperature, and F is the Faraday constant.

Source:

PAC, 1981, 53, 1827 (*Nomenclature for transport phenomena in electrolytic systems*) on page 1838