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chemical potential, μ_B

The chemical potential of a substance **B** in a mixture of substances **B**, **C** ... is related to the Gibbs energy G of the mixture by:

$$\mu_B = \left(\frac{\partial G}{\partial n_B}\right)_{T,p,n_{C\neq B}}$$

where T is the thermodynamic temperature, p is the pressure and n_B, n_C, ... are the amounts of substance of **B**, **C**, ... For a pure substance **B**, the chemical potential μ_B^* is given by:

$$\mu_B^* = \frac{G^*}{n_B} = G_m^*$$

where G_m^* is the molar Gibbs energy, and where the superscript * attached to a symbol denotes the property of the pure substance. The superscript $_\ominus$ or $_o$ attached to a symbol may be used to denote a standard thermodynamic quantity.
See also: standard chemical potential

Source:
PAC, 1994, *66*, 533 *(Standard quantities in chemical thermodynamics. Fugacities, activities and equilibrium constants for pure and mixed phases (IUPAC Recommendations 1994))* on page 535
Green Book, 2nd ed., p. 49
PAC, 1996, *68*, 957 *(Glossary of terms in quantities and units in Clinical Chemistry (IUPAC-IFCC Recommendations 1996))* on page 966

