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Gibbs adsorption

The surface excess amount or Gibbs adsorption of component i, n_i^σ, which may be positive or negative, is defined as the excess of the amount of this component actually present in the system over that present in a reference system of the same volume as the real system and in which the bulk concentrations in the two phases remain uniform up to the Gibbs dividing surface. That is

$$n_i^\sigma = n_i - V^\alpha c_i^\alpha - V^\beta c_i^\beta$$

where n_i is the total amount of the component i in the system, c_i^α and c_i^β are the concentrations in the two bulk phases α and β, and V^α and V^β are the volumes of the two phases defined by the Gibbs surface.

Source:
PAC, 1972, *31*, 577 *(Manual of Symbols and Terminology for Physicochemical Quantities and Units, Appendix II: Definitions, Terminology and Symbols in Colloid and Surface Chemistry)* on page 588

