doi:10.1351/goldbook.F02538

Frumkin effect

Also contains definition of: 'true' rate constant

In an electrode reaction, when reactants or intermediates are adsorbed, the rate of reaction may no longer be related to the concentration by a simple law. The deviation may be due to either entropic or energetic effects or both. The situation best understood is that where a reactant is non-specifically adsorbed in the outer Helmholtz plane (inner boundary of the diffuse layer). The effect of such adsorption on electrode kinetics is usually termed the Frumkin effect. Rate constants, transfer coefficients etc. corrected for this effect are frequently called 'true' rate constants etc. It would be preferable to describe them as 'corrected for the Frumkin effect', but in any case, if such a correction is carried out, the basis on which it is made should be clearly described.

Source:
PAC, 1980, *52*, 233 *(Electrode reaction orders, transfer coefficients and rate constants. Amplification of definitions and recommendations for publication of parameters)* on page 239

