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partition constant, K_D^o

The ratio of activity of a given species A in the extract to its activity in the other phase with which it is in equilibrium, thus:

$$(K_D^o)_A = \frac{a_{A,org}}{a_{A,aq}}$$

Its value should not vary with composition but depends on the choice of standard states and on the temperature (and eventually the pressure).
See: transfer activity coefficient, distribution constant

Source:
PAC, 1993, *65*, 2373 *(Nomenclature for liquid-liquid distribution (solvent extraction) (IUPAC Recommendations 1993))* on page 2385

