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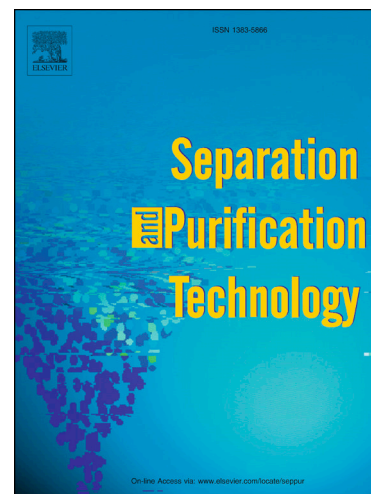
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**Adsorbate mass transfer into porous adsorbents – A practical viewpoint**

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**Key Words:** Sorption kinetics, Fickian diffusion model, Linear driving force model, Mass transfer coefficient, Complexity of real systems, Gibbs surface excess.

**Abstract:**

A practical perspective of the complex and extensive subject of adsorbate mass transfer into porous adsorbents, which is important for design of adsorptive processes for separation of fluid (gas or liquid) mixtures, is given. The state of the art for the subject may not allow reliable a priori estimation of the adsorbate mass transfer coefficients for practical adsorbents and experimental measurement of these variables may generally be needed for each specific system of interest. The Linear Driving Force (LDF) model of adsorbate mass transport may be adequate for most practical systems of interest. The LDF model is compatible with the Gibbsian surface excess frame - work of adsorption and that may have been inadvertently used in the past works.

**1. Introduction**

The rate of transport of an adsorbate molecule from a bulk fluid phase (gas or liquid) to an adsorption site on the surface of a solid adsorbent (porous or non-porous) and the subsequent rate of actual sorption process is an important variable for design of an efficient separation process by

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