

**TRANSPORT  
PHENOMENA  
DATA COMPANION**



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# Preface

Many of the data needed for calculations in chemical engineering are dispersed over the literature. Moreover, various systems of units are used, often forcing the user to perform tedious conversions before a 'quick' calculation can be started. In this companion the authors have compiled those data that, according to their experience, are used frequently in transport phenomena and related subjects and, since all data are in S.I. units, rapid access to various calculations is facilitated.

This book is of course no substitute for a complete literature survey and no compendium on all data available in literature. On many occasions a selection had to be made from a multitude of expressions. For instance, for the mass transfer to bubbles, drops and particles, dozens of correlations are available. In those cases the most general correlation or the expression most commonly used has been chosen.

This companion consists of four parts. The first part is general and gives information varying from the Greek alphabet to calibration curves for thermocouples and pH ranges of indicators.

The second part consists of frequently used mathematics. In addition to general mathematical techniques, a selection of vectorial and tensorial calculus relevant to hydrodynamics and elementary rheology has been added.

The third part is a compendium of the transport phenomena. A systematic arrangement facilitates its use. The figures are in such a form that easy reading and accuracy are combined.

In the final part various material properties are given. Special attention has been paid to the most commonly used materials: air and water, but also frequently used materials like for instance hydrocarbons, foods and others are included.

For easy access to the data an extensive index is very important, so, special attention has been given to make the index as complete as possible.

We hope this book will be useful for all those involved in transport phenomena, students, scientists as well as engineers, and we are grateful to everybody who has contributed to improve this companion by suggestions and criticism. Any further suggestions and amendments will be gratefully received.

Groningen and Delft,

L.P.B.M. Janssen

M.M.C.G. Warmoeskerken



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