

Contents

Volume 2: Chemical and Biochemical Sensors, Part I

List of Contributors	XII
1 Definitions and Typical Examples	1
<i>W. Göpel, K.-D. Schierbaum</i>	
2 Historical Remarks	29
<i>W. Göpel, T. A. Jones, T. Seiyama, J. N. Zemel</i>	
3 Chemical Sensor Technologies: Empirical Art and Systematic Research	61
<i>W. Göpel</i>	
4 Specific Molecular Interactions and Detection Principles	119
<i>W. Göpel, K.-D. Schierbaum</i>	
5 Specific Features of Electrochemical Sensors	159
<i>H.-D. Wiemhöfer, K. Cammann</i>	
6 Multicomponent Analysis in Chemical Sensing	191
<i>S. Vaihinger, W. Göpel</i>	
7 Liquid Electrolyte Sensors: Potentiometry, Amperometry, and Conductometry	239
<i>F. Oehme</i>	
8 Solid State Electrochemical Sensors	341
<i>M. Kleitz, E. Siebert, P. Fabry, J. Fouletier</i>	
9 Electronic Conductance and Capacitance-Sensors	429
<i>W. Göpel, K.-D. Schierbaum</i>	
10 Field Effect Chemical Sensors	467
Device Principles	
<i>I. Lundström</i>	
Ion-Sensitive FETs	
<i>A. van den Berg, B. H. van der Schoot, H. H. van den Vlekkert</i>	
Field Effect Gas Sensors	
<i>M. Armgarth, C. J. Nylander</i>	
11 Calorimetric Chemical Sensors	529
<i>T. A. Jones, P. Walsh</i>	
12 Optochemical Sensors	573
<i>O. Wolfbeis, G. E. Boisde, G. Gauglitz</i>	

13	Mass-Sensitive Devices	647
	<i>M. S. Nieuwenhuizen, A. Venema</i>	
	Index	681
	List of Symbols and Abbreviations	703

Volume 3: Chemical and Biochemical Sensors, Part II

(Contents given as an overview)

List of Contributors

- 14 Specific Features of Biosensors
H.-L. Schmidt, W. Schuhmann, F. W. Scheller, F. Schubert
- 15 Chemical Sensors and Instrumentation in Analytical Chemistry
W. Göpel, M. Oehme
- 16 Calibration of Gas Sensors
K. Kaltenmaier
- 17 Applications of Optochemical Sensors for Measuring Chemical Quantities
O. Wolfbeis, G. E. Boisde
- 18 Applications of Optochemical Sensors for Measuring Environmental and Biochemical Quantities
O. Wolfbeis
- 19 Sensors and Instrumentation in Environmental Control
K. Colbow, K. Colbow
- 20 Humidity Control
H. Arai, T. Seiyama
- 21 Biosensors for Monitoring Pesticides in Water
P. Krämer, R. D. Schmid
- 22 Sensors in Biotechnology
T. Schepel, K. F. Reardon
- 23 Clinical and Respiration Gas Analysis
H. Albrecht

24 Chemical Sensors in Clinical Diagnostics*K. Wulff, M. Gerber***25 Solid State Electrochemical Potentiometric Sensors for Gas Analysis***H.-H. Möbius***26 High-Temperature Sensors for Oxidic Glass-forming Melts***F. G. K. Baucke***Cumulated Index of Volumes 2 and 3****Cumulated List of Symbols and Abbreviations of Volumes 2 and 3**