

Contents

Volume 3: Chemical and Biochemical Sensors, Part II

List of Contributors	XIII
14 Specific Features of Biosensors <i>H.-L. Schmidt, W. Schuhmann, F.W. Scheller, F. Schubert</i>	717
15 Chemical Sensors and Instrumentation in Analytical Chemistry <i>W. Göpel, M. Oehme</i>	819
16 Calibration of Gas Sensors <i>K. Kaltenmaier</i>	847
17 Applications of Optochemical Sensors for Measuring Chemical Quantities <i>O. Wolfbeis, G. E. Boisdé</i>	867
18 Applications of Optochemical Sensors for Measuring Environmental and Biochemical Quantities <i>O. Wolfbeis</i>	931
19 Sensors and Instrumentation in Environmental Control <i>K. Colbow, K. Colbow</i>	969
20 Humidity Control <i>H. Arai, T. Seiyama</i>	981
21 Biosensors for Monitoring Pesticides in Water <i>P. Krämer, R. D. Schmid</i>	1013
22 Sensors in Biotechnology <i>T. Schepers, K. F. Reardon</i>	1023
23 Clinical and Respiration Gas Analysis <i>H. Albrecht</i>	1047
24 Chemical Sensors in Clinical Diagnostics <i>K. Wulff, M. Gerber</i>	1095
25 Solid-State Electrochemical Potentiometric Sensors for Gas Analysis <i>H.-H. Möbius</i>	1105
26 High-Temperature Sensors for Oxidic Glass-Forming Melts <i>F. G. K. Baucke</i>	1155
Cumulated List of Symbols and Abbreviations of Volumes 2 and 3	1181
Cumulated Index of Volumes 2 and 3	1199

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. Boisdé, G. Gauglitz</i>	

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