

Contents

Contributors	v
General Preface	vii
Preface to Volume 9	ix

1. Theory of Tricritical Points

I. D. LAWRIE and S. SARBACH

I. Introduction	2
II. Scaling Description of Tricritical Behaviour	26
III. Classical Theory	65
IV. The Many-component Limit: An Exactly Soluble Model	96
V. Renormalization-group Theory	113
VI. Concluding Remarks	152
Acknowledgements	155
References	155

2. Multicritical Points in Fluid Mixtures: Experimental Studies

C. M. KNOBLER and R. L. SCOTT

I. Introduction	164
II. History	169
III. Theory	171
IV. Unsymmetrical Tricritical Points in Three-component Systems	180
V. Unsymmetrical Tricritical Points in Four-component Systems	192
VI. Symmetrical Tricritical Points	207
VII. Higher-order Critical Points	225
Acknowledgements	228
References	228

3. Critical Point Statistical Mechanics and Quantum Field Theory

G. A. BAKER, JR

I. Introduction and Summary	234
II. Constructive Quantum Field Theory	235
III. Continuous Spin Ising Model	281
IV. Renormalization Group Theory of Critical Phenomena	288

V. Quantitative Information about the Critical Point and the Continuum	
Limit of Field Theory 	295
References	305
Appendix A: Positivity Hypothesis 	309
Appendix B: Detail on Mass Renormalization 	310
Subject Index 	313