

1. Record Nr.	UNINA9910959258903321
Autore	Abdulagatov Aziz I
Titolo	Binary aqueous and CO ₂ containing mixtures and the Krichevskii parameter // Aziz I. Abdulagatov, Ilmutdin M. Abdulagatov, Gennadii V. Stepanov
Pubbl/distr/stampa	Hauppauge, N.Y., : Nova Science Publishers, c2010
ISBN	1-61761-451-3
Edizione	[1st ed.]
Descrizione fisica	1 online resource (237 p.)
Collana	Chemistry research and applications series
Altri autori (Persone)	Abdulagatov Ilmutdin M Stepanov Gennadii Vladimirovich
Disciplina	660/.042
Soggetti	Supercritical fluids Liquid carbon dioxide Thermochemistry - Mathematical models Solvents
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Intro -- Library of Congress Cataloging-in-Publication Data -- Contents -- Preface -- Introduction -- 1.1. Technological Applications of the Supercritical Fluid Mixtures Containing CO ₂ -- 1.2. Technological Applications of the Supercritical Fluid Mixtures Containing H ₂ O -- 1.3. Scientific Applications of the Supercritical Fluid Mixtures -- The Critical Properties of Binary Mixtures and Related Thermodynamic Properties -- 2.1. The Critical Properties of Binary Mixtures and the Krichevskii Parameter -- 2.2. Partial Molar Volume, Henry's Constant, Distribution Coefficient, Solubility, and Structural Properties of Dilute Mixtures and Krichevskii Parameter -- 2.3. The Critical Curves Shape Behavior and Asymptotic Scaling Properties of Binary Mixtures Near the Critical Points of Pure Solvent -- Experimental Methods -- 3.1. Method-1. Observation of the Appearance and Disappearance of Meniscus at The Vapor-Liquid Interface. "Sealed Tube" Method -- 3.2. Method 2: Law of Rectilinear Diameter -- 3.3. Method 3: PVT Relations, $((P/(V)T) = ((2P/(V^2)T) = 0$ -- 3.4. Method 4: Pulse Heating Method -- 3.5. Method 5: Flow Apparatus -- 3.6. Method 6: Acoustic Method of Determination of the Critical Points --

3.7. Method 7: Method of Quasi-Static Thermograms -- The Critical Properties of Binary CO₂+Solute Mixtures -- 4.1. The Critical Properties of Binary CO₂+Alcohol Mixtures -- 4.2. The Critical Properties of Binary CO₂+N-Alkane Mixtures -- 4.3. The Critical Properties of Binary CO₂+Aromatic Hydrocarbon Mixtures -- 4.4. The Critical Properties of Binary CO₂+H₂O Mixtures -- 4.5. The Critical Properties of Binary CO₂+Monatomic Gas (He, Ar, Kr, And Xe) Mixtures -- 4.6. The Critical Properties of Binary CO₂+Twoatomic Gases (O₂, N₂, H₂) -- 4.7. The Critical Properties of CO₂+ Poly-Atomic Fluid (H₂S, SO₂, N₂O, SF₆, NH₃) Mixtures.
4.8. The Critical Properties of CO₂+Refrigerant (CHF₃, CH₂F₂, R134a) Mixtures -- 4.9. The Critical Properties of Binary CO₂+(Ethylene, Acetylene, Cyclohexane, and Isomers) -- 4.10. The Critical Properties of Binary CO₂+ (Pyridine, Ethanoic Acid, Acetone, Chloroform, Acetonitrile, And Tetrahydrofuran) Mixtures -- The Critical Properties of Binary Aqueous Solutions -- 5.1. The Critical Properties of Binary Aqueous Salt Solutions -- 5.2. The Critical Properties of Binary Aqueous Alcohol Solutions -- 5.3. The Critical Properties of Binary Aqueous Gas Solutions -- 5.4. The Critical Properties of Binary Aqueous Hydrocarbon Solutions -- 5.5. The Critical Properties of H₂O+D₂O -- Conclusion -- Acknowledgments -- References -- Compilation of the Critical Properties of Binary Mixtures Containing Carbon Dioxide -- Compilation of the Critical Properties of Binary Aqueous Solutions -- Index.

Sommario/riassunto

All available sources of the critical curves data of binary aqueous solutions and binary carbon dioxide containing mixtures have been collected, evaluated, and compared with various data sources and with prediction and correlation methods in this work.
