

Chemical Thermodynamics: Basic Theory and Methods**Irving M. Klotz and Robert M. Rosenberg****John Wiley and Sons, New York, N.Y., 2000, 6th ed. xxi+556 pp. Figs and tables.****ISBN 0-471-33107-4 (Hb), £ 58.50/Eur 93.70**

This book is an update of the popular 1994 edition of the classical digest for chemist, chemical engineers, biochemist, geologist, and material scientists. The subject is classical or phenomenological chemical thermodynamics, but this time statistical thermodynamics is excluded. It is difficult to find another text that has the subject qualities of professors Klotz's and Rosenberg's textbook.

The scope of the text can be seen from the titles of its 24 chapters. The book is not divided into major parts, but focuses mainly on the three main laws of thermodynamics (Chapter 2–9.). Chapter 10 is dedicated to the application of the Gibbs and the Planck functions to chemical changes. Chapter 14 contains the phase rule. The gas mixtures, nonelectrolyte solutions and electrolytes are incorporated in Chapters 11–12, 14–20. Chapter 18 is devoted to the calculation of partial and excess molar quantities from experimental data. Two Chapters 22, 23 deal with the estimation of thermodynamic quantities and practical mathematical techniques. The treatment is concise and valuable for practitioners newly entering the field.

Numerous exercises (175 in all) are concluded the chapters, answers are not provided, but a separate student manual is available for solutions to alternate problems. The most important references are cited at the end of the Chapters just after the exercises (some as recent as 1999). A lot of figures (120) and extensive up-to-date tables (117) are included in the Chapters together with Web-based resources and databases. One of the book's most valuable features is its more than 1500 equations, that are essential parts of the text. An extremely detailed index (13 double column pages) is facilitated location of the materials.

I am pleased to recommend heartily this exceptionally clearly written, masterfully organized and exclusively produced millennium edition for graduated students as well as experts in the field of physical chemistry. The venerable bible of chemical thermodynamics should undoubtedly be part of every Chemical Department's – and chemist's personal – library.

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