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Sinopsis

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E Brian Smith received his first degree and his doctorate at Liverpool University. After two years at the University of California, Berkeley, with Professor Joel H Hildebrand, he returned to become Lecturer in Physical Chemistry and Fellow of St Catherine's College, Oxford. In 1988 he was appointed Master of St Catherine's College. From 1993 to 2001 he was Vice-Chancellor of Cardiff University. His research interests include intermolecular forces and the biological effects of simple gases. In the latter area he has contributed to the understanding of the mechanisms of general anaesthesia, inert-gas narcosis and decompression sickness, and has been active in applying the results of his investigations to improving the techniques of deep-sea diving.

This widely acclaimed text, now in its fifth edition and translated into many languages, continues to present a clear, simple and concise introduction to chemical thermodynamics. An examination of equilibrium in the everyday world of mechanical objects provides the starting point for an accessible account of the factors that determine equilibrium in chemical systems. This straightforward approach leads students to a thorough understanding of the basic principles of thermodynamics, which are then applied to a wide range of physico-chemical systems. The book also discusses the problems of non-ideal solutions and the concept of activity, and provides an introduction to the molecular basis of thermodynamics.

Over five editions, the views of teachers of the subject and their students have been incorporated. The result is a little more rigour in specifying the dimensions within logarithmic expressions, the addition of more worked examples and the inclusion of a simple treatment of the molecular basis of thermodynamics. Students on courses in thermodynamics will continue to find this popular book an excellent introductory text.

Contents:
Energy
Entropy and Equilibrium
Equilibrium in Chemical Systems

Determination of Thermodynamic Quantities
Ideal Solutions
Non-Ideal Solutions
Thermodynamics of Gases
Molecular Basis of Thermodynamics