



Ionic Equilibrium: Solubility and pH Calculations

By James N. Butler

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Ionic Equilibrium: Solubility and pH Calculations By James N. Butler

A celebrated classic in the field updated and expanded to include the latest computerized calculation techniques

In 1964, James N. Butler published a book in which he presented some simple graphical methods of performing acid-base, solubility, and complex formation equilibrium calculations. Today, both the book and these methods have become standard for generations of students and professionals in fields ranging from environmental science to analytical chemistry. Named a "Citation Classic" by the Science Citation Index in 1990, the book, *Ionic Equilibrium*, continues to be one of the most widely used texts on the subject. So why tamper with near-perfection by attempting a revision of that classic? The reason is simple-- the recent rapid development and wide availability of personal computers.

In the revised *Ionic Equilibrium*, Dr. Butler updates his 1964 work by abandoning the slide rule and graph paper for the PC spreadsheet. He also expands the original coverage with extensive material on basic principles and recent research.

The first part of *Ionic Equilibrium* is devoted to the fundamentals of acid-base, solubility, and complex formation equilibria. In the second part, the author discusses oxidation-reduction equilibria, develops the principles of carbon dioxide equilibria, presents case studies demonstrating the ways in which carbon dioxide equilibria are used in physiology and oceanography, and explores the possibility of a pH scale for brines. The concluding chapter, written by David R. Cogley, gives examples of general computer programs that are capable of performing equilibrium calculations on systems of many components.

Replete with real-world examples, details of important calculations, and practical problems, *Ionic Equilibrium* is an ideal course text for students of environmental chemistry, engineering, or health; analytical chemistry; oceanography; geochemistry; biochemistry; physical chemistry; and clinical chemistry. It is also a valuable working resource for professionals in those fields as well as industrial chemists involved with solution chemistry.

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Editorial Review

Review

"This is by far the best textbook on chemical equilibrium I know. It is an absolute must for everybody using electrolyte solutions in his research..."(Jnl of Solid State Electrochemistry, Vol 5, 2001)

From the Publisher

Ionic equilibrium is the chemistry associated with salts, acids, and bases. The main application lies in environment science, especially the field of water chemistry. An example of ionic equilibrium studies in would be the examination of environmental damages caused to the Alaskan waters by the Exxon Valdez oil spill (a project to which Dr. Butler has close ties). In 1964, Dr. Butler developed a simple yet powerful method of performing equilibrium calculations in the classic Addison-Wesley book, Solubility and pH Calculations. At that time, chemists utilized slide rules and graph paper to figure and plot these equations. This updated version is expanded to include new advances in the field and to incorporate the use of the personal computer into this branch of chemistry.

From the Back Cover

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Users Review

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James Sanchez:

This Ionic Equilibrium: Solubility and pH Calculations book is not ordinary book, you have it then the world is in your hands. The benefit you have by reading this book is usually information inside this publication incredible fresh, you will get facts which is getting deeper an individual read a lot of information you will get. This particular Ionic Equilibrium: Solubility and pH Calculations without we realize teach the one who looking at it become critical in imagining and analyzing. Don't become worry Ionic Equilibrium: Solubility and pH Calculations can bring when you are and not make your case space or bookshelves' come to be full because you can have it in your lovely laptop even cellphone. This Ionic Equilibrium: Solubility and pH Calculations having fine arrangement in word and layout, so you will not feel uninterested in reading.

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Nelson McNamee:

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Elizabeth Walborn:

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