

HYDROMETALLURGY

HYDROMETALLURGY

Fundamentals and Applications

MICHAEL L. FREE

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PREFACE

This book provides a college-level overview of chemical processing of metals in water-based solutions. It is an expanded version of a previous textbook, *Chemical Processing and Utilization of Metals in Aqueous Media*, with two editions written by the author. The information in this book is relevant to engineers using, producing, or removing metals in water. The metals can take the form of dissolved ions, mineral particles, or metal. The material in each chapter in this textbook could be expanded into individual textbooks. It is clearly not comprehensive in its coverage of relevant information. Other resources, such as the four-volume series *Principles of Extractive Metallurgy* by Fathi Habashi, provide more details for specific metal processing methods. Thus, this text presents a condensed collection of information and analytical tools. These tools can be used to improve the efficiency and effectiveness with which metals are extracted, recovered, manufactured, and utilized in aqueous media in technically viable, reliable, environmentally responsible, and economically feasible ways.

The author expresses gratitude to his family, colleagues, teachers, and students who have contributed in various ways to the completion of this text.

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