This comprehensive book is the only one that addresses theory, practice, management, purchasing and marketing of cooling water systems in one volume.

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Scaling, corrosion, micro-biological deposits, among others, interfere with the transfer of heat, a key element to achieve a cost-effective operation of cooling water systems, examined in chapters on Cooling System & Heat Exchange Essentials; Make-Up Water Sources & Their Impurities; and Corrosion, Fouling & Deposition.

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An indispensable source for: Chemical, Plant, Maintenance, Operations, Process and Utility Services Engineers; specialty chemicals companies personnel and cooling water systems marketing personnel.
CONTENTS: Cooling System & Heat Exchange Essentials; Make-up Water Sources & their Impurities; Make-up Water Pre-Treatment Processes; Corrosion, Fouling & Deposition; Chemical Treatments & Programs for Cooling Water; Micro-biological Control Programs; Buying and Selling Cooling Water Programs; Surveys, Inspections & Cooling Water Program Selection; Managing Cooling Water Programs; Monitoring & Control; Appendix 1: Useful Data; Appendix 2. Glossary of Terms; Appendix 3. Summary of Charts & Notes for Field Use; References; Index.

BOILER WATER TREATMENT: PRINCIPLES AND PRACTICE
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CONTENTS: Principles of Steam Generation; Objectives in Treating Water for Boilers; Physical methods for Improving Water Quality; External Chemical Treatments; Internal Chemical Treatments; Operating Procedures; Complications in the Operation of Boilers: Analytical Methods; Appendix.
THE CHEMICAL TREATMENT OF COOLING WATER
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This standard reference serves the industrial community as an authoritative source on cooling water problems. The problems of corrosion measurement and control are intensively examined and the more recently developed cooling water additives are reviewed. Advances in treatment chemicals and chemical cleaning are thoroughly explored:

PARTIAL CONTENTS: Principles of Open Recirculating Water Systems; Corrosions; Scaling and Fouling; Microbiology; Chemical Treatments; Operating Procedures; Analytical Methods.

THE MICROBIOLOGY OF COOLING WATER
JAMES W. McCOY
272 pages, Illustrations
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McCoy's guide to the maintenance and management of cooling water systems and the bacteria that live in them. Includes studies and testing of microbicides and other microorganisms that infest re-circulating cooling water systems and factors influencing their health and growth. Tests biological oxidation processes as a way of reusing treated effluents as an important method of water conservation in the petroleum refining and chemical processing industries. Explores practical methods for controlling microorganisms in cooling water; including working with chlorine dioxide as a microbicide. Methods are given for identifying and evaluating toxicants and bacteria that lead to fouling and staining of cooling water systems.

PARTIAL CONTENTS: Classification and Structure of Most Common Microorganisms; Effects of Microorganisms; Control of Microorganisms; Application of Microbicides; Reclaimed Water; Methods of Analysis.
Begins with a brief review of the origins and early history of cooling towers and finally brings together the variety of terms in the industry into a uniform system of terminology. Facts accumulated as a result of laboratory testing together with full-scale tests in the field provide the basis for the methods described in the book. Provides easy to use combination of steps in which to incorporate the Merkel theory. English-American units of measure are used in the examples with metric equivalents shown in parentheses. Appendices contain tables of appropriate constants and conversion factors for use with SI (le Systeme International d’Unites). This guide is of great benefit to cooling tower users, operators and plant designers.

CONTENTS: Historical background of cooling towers; Development of cooling tower theory; Merkel and Enthalpy Potential; Lists laboratory testing facilities and test procedures; Field Testing; Tower Selection and Rating Tables; Tower Units and Universal Rating Charts; General Operating Principles; Hyperbolic Towers;

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Written for manufacturers, laboratory pyrotechnicians, and lay students, this book contains an enormous amount of invaluable data on the properties and production of pyrotechnic materials, on heat and light production, on aerosols, energy, and noise. Includes a manufacturing formulary, and a good reference section. Its wealth of information and highly readable style make it a ‘must have’ in every pyrotechnician’s library.
HANDBOOK OF PYROTECHNICS
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Sunscreens
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Packaging

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Permanent Waving, Hair Straightening and Depilatories
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H. BENNETT
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CEMENT TECHNOLOGY & ENGINEERING

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KURT E. PERAY
408 pages
Paperback
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This unique handbook contains the most essential engineering formulas used in the cement manufacturing process. All formulas are presented in both English and metric systems of units. Examples are given to familiarize the reader with the usefulness of these formulas. The book can be used as a text manual for courses in cement technology, and as a reference for solving operating problems. The book is equally valuable for the manager, supervisor, chemist, and operator as it is to the cement plant engineer.

CONTENTS: Cement Chemistry and Quality Control; Kiln Feed Mix Calculations; Chemical and Physical Properties of Materials; Technical Investigations of Kiln Performance; Heat Balance; Sulfur and Alkali Balance in Rotary Kilns; Chain Systems Designs; Cooler Air Balance Technical Investigation of Grinding Circuits; Ball Charges; Grinding Aid Solutions; Useful Formulas in Stearn Engineering Electrical Engineering; Fan Engineering; Fluid Flow; Physical Chemistry; Heat Transfer and Dust Collection; Fundamental Formulas in Algebra; Trigonometry; Statistics; Finances; Safety and Geometry; Conversion Factors for all Units.

THE ROTARY CEMENT KILN
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KURT E. PERAY
396 pages, Illustrations
Paperback
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This is an indispensable reference source and training tool not only for kiln operators, but for supervisors and management staff as well. Extensive discussions on pre-heater and pre-calciner operations are included. The appendix includes a section with conversion tables, definitions of common terms relating to rotary kilns, and a suggested outline for a training program for new operators.

CONTENTS: History; Types of Rotary Kilns; Refractories; Fuels; Combustion;
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DICTIONARIES AND REFERENCE

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HANDBOOK OF POWDER METALLURGY
Henry H. Hausner
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M.H. GABB, W.E. LATCHAM
128 pages
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A concise and handy guide to the numerous “recipes” for chemical solutions used in laboratories. In each chapter, preparations of one particular use, or related uses, are grouped alphabetically. Where appropriate, the use of the solutions are stated and cross reference made. Should meet most of the everyday requirements of chemistry, physics, biology and engineering laboratories.

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The many advances in polymers and their associated processes have rendered necessary this new edition from Mr Miles and Mr Briston—two very renowned and respected British authors. Polymer and Material Scientists in industrial, academic and government laboratories, as well as researchers and managers who need to keep abreast of developments in Polymer Technology will find this an invaluable practical reference source: New additions include sections on Stretch Blow Molding, Multi-layer (Coextrusion), Bottle Blowing, and Decoration of Plastics, with a new chapter on Thermoplastic Polyesters. The MATERIAL Chapters (Thermosets and Thermoplastics, Natural Polymers and Derivatives; Rubberlike Polymers, Inorganic Polymers, Compounding Ingredients), were updated to include linear low density polyethylene (LLDPE), pearlescent polypropylene, amorphous nylons (Sellar PA), poly (ethylene terephthalate) (PET), ethylene/vinyl alcohol copolymers (EVOH), poly (etherimide) (Ultem), and poly (etheretherketone) (PEEK). The updated chapters on PROCESSING (Compression and Transfer Molding, Extrusion, Injection Molding and Blow Molding, Thermoforming, Powder Coating, Miscellaneous Processing Techniques) take account of developments in Powder Coating, Coextrusion, Injection and Blow Molding, Solid Phase Pressure Forming, and Thermoforming (including blister and skin packaging). The TESTING Chapter (Physical and Chemical Testing of Plastics) as well as the APPLICATION aspects are updated and expanded to include Water Vapor. The section on Optical Tests has also been updated and enlarged.

INDUSTRIAL CHEMICAL CLEANING
JAMES W. McCOY
296 pages, Illustrations
Hardcover
$105.00
£63.00
ISBN 0-8206-0305-8

Here is a lucid, practical presentation of the problems and solutions to industrial chemical cleaning. Contained in one essential reference are the causes and composition of fouling, the various chemicals used for its control, hazards in cleaning, and an examination of cleaning methods for the most common industrial equipment. Finally, a complete section on
the chemical analysis of the deposits with procedures for determining the most effective cleaning solutions is included. This book will serve as the main reference tool for the industrial engineer who manages equipment cleaning operations and the consultant who is called in to do the job.

CONTENTS: Principles of Chemical Cleaning; Chemicals Used in Industrial Cleaning; Nonaqueous Cleaning Solvents; Nonchemical Cleaning Procedures; Passivation; Planning and Contracting; Steam Generators; Water-Cooled Heat Exchangers; Columns, Reactors, and Other Vertical Vessels; Furnace Tubes; Analytical Procedures; Appendices.

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CORROSION DEPOSITION - Fouling Biofouling Scaling.

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