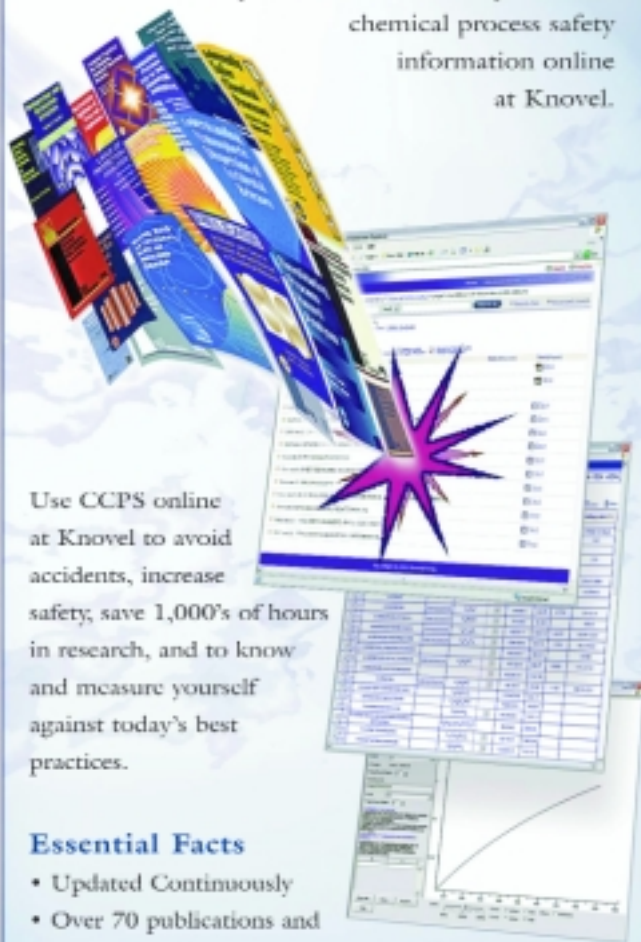


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Books

Industrial Furnaces

**W. Trinks, et al., John Wiley & Sons, Inc., Hoboken, NJ,
6th Edition, 473 pp., \$150.00, 2003**



The fully updated edition of the "furnace man's bible," this new revision of "Industrial Furnaces," the cornerstone volume in the field, provides up-to-date, reliable guidance for how to best use furnaces. Continuing a long tradition as a dependable reference, this new edition helps engineers adjust to changing modes of furnace operation with valuable know-how in critical areas in which experience counts as much as analytical skills. Thorough discussions address the latest information and data for working with industrial furnaces across all industries and specialties, including steelmaking, ceramics, and chemical processes. Broadened coverage in this new edition includes material on furnaces used for composites, glass, ceramics, and other nontraditional materials.

Transport Phenomena for Chemical Reactor Design

**Laurence A. Belfiore, John Wiley & Sons, Inc.,
Hoboken, NJ, 884 pp., \$115.00 2003**



In this book, the author meshes together two mainstream subject areas in chemical engineering — transport phenomena and chemical reactor design. Expressly intended as an extension of Bird, Stewart, and Lightfoot's classic, "Transport Phenomena," and Froment and Bischoff's "Chemical Reactor Analysis and Design, Second Edition," Belfiore's text explores the synthesis of these two disciplines in a

manner the upper undergraduate or graduate reader can readily grasp. It approaches the design of chemical reactors from microscopic heat and mass-transfer principles. It includes simultaneous consideration of kinetics and heat transfer, both critical to the performance of real chemical reactors. Complementary topics in transport phenomena and thermodynamics that provide support for chemical reactor analysis are covered, including:

- fluid dynamics in the creeping and potential flow regimes around solid spheres and gas bubbles
- the corresponding mass-transfer problems that employ velocity profiles to calculate interphase heat and mass-transfer coefficients
- heat capacities of ideal gases via statistical thermodynamics to calculate Prandtl numbers
- thermodynamic stability criteria for homogeneous mixtures that reveal that binary molecular diffusion coefficients must be positive.

In addition to its comprehensive treatment, the text also contains 484 problems and 96 detailed solutions to assist in the exploration of the subject.