



University of Arkansas Libraries

Reference Department

Research Guide for

CHEG 4413

Process Design

Background and Data Resources

Books are excellent places to begin your research. Need an overview of your topic? An encyclopedia article will give a terrific summary of (or introduction to) your subject area – and, at the end of the article, the bibliography will list books and articles for further reading and research. Background resources often send you to appropriate data resources. Both paper and electronic reference resources are available. **DON'T FORGET THE SAFETY INFORMATION**

Azeotropic data, compiled by L. H. Horsley and coworkers at the Dow Chemical Co PHYS-CHEM BKS QD1 .A355

Chemistry data series – many subvolumes – DECHEMA Vapor-liquid equilibrium data collection

Critical data of pure substances

Heats of mixing data collection

Vapor-liquid equilibria for mixtures of low-boiling substances

QD65 .C44 (MAIN) REFERENCE

A comprehensive guide to the hazardous properties of chemical substances

RA1211 .P38 1999 (MAIN) REFERENCE

Kirk-Othmer Encyclopedia of Chemical Technology

TP9 .E685 1991 OR TP9 .K54 2004 (MAIN) REFERENCE

Physical and thermodynamic properties of pure chemicals – DIPPR TP200 .D39 1989 (MAIN) REFERENCE

Physical property data for the design engineer TP200 .P49 1989 (MAIN) REFERENCE

Business Information

Don't forget that part of the design process may be developing a business plan. What resources are available. What do resources cost? Who is manufacturing what where?

Business and economic statistics are available from public and private resources. Here are a few places to get started.

1997 economic census. Manufacturing. Industry series; call number varies

Chemical engineering buyers guide (MAIN) REFERENCE TP158.C47

Chemical and engineering news – news magazine from ACS, available electronically and in paper, MAIN TP1.C35

Chemical Market Reporter -- available electronically and in paper, MAIN HD9650.1.C486

OPD chemical buyers directory (MAIN) REFERENCE TP12 .O6

Electronic Resources

(from our top 10 list)

[Access Science \(McGraw Hill\)](#)

Searchable access to the full text of the Encyclopedia of Science & Technology, including recent research developments, biographies, data, tables, news references, illustrations and related links.

[Encyclopedia Britannica Online](#)

Fully searchable and browsable text of the printed Encyclopedia Britannica; articles are updated more frequently than in the printed version and include more than 50,000 links to additional web resources.

[WorldCat \(FirstSearch\)](#)

Describes items on thousands of subjects and published in any year since about 1000. The items cited are owned by the University Libraries or by libraries around the world. Includes books, journals, maps, slides, computer datafiles, magazines, documents, and more.

Other Engineering Tools

[Knovel](#)

provides a searchable database of more than 900 handbooks and reference sources in science and engineering. We subscribe to 1/3 of the database including important titles in mechanical and chemical engineering.

Identifying Articles

Periodical indexes (including online databases) provide the most efficient subject access to journals, magazines & newspapers. Some of these indexes are print, and some electronic (online). Access the online resources from the University of Arkansas Library website (<http://libinfo.uark.edu/>). Use the **Resource Finder** to quickly locate the links to the database you need.

Database	Coverage	Access information
Compendex is an online version of <i>Engineering Index</i> . It encompasses all engineering disciplines as well as related fields in the sciences and management.	1884 – current. Covers 5000 journals, significant published proceedings of engineering and technical conferences, and selected technical reports and books	Library home page Resource Finder Search for “Compendex” (part of Engineering Village)
SciFinder Scholar is one of the online version of <i>Chemical Abstracts</i> . It covers all major chemistry literature including patents and conference. Unless selected includes Medline (or PubMed) references.	1907 – current Covers 30,000+ sources and includes a structure searchable database of 15M+ compounds. Also includes a reaction database.	Library home page Resource Finder Search for “SciFinder” Note that you must be on campus or using your campus dial-up account
Ebsco Academic Search Premier scholarly, multi-discipline, full text database. Good coverage of engineering trade journals and some technical academic journals.	1990 – current with some historical materials back to the 1960s Covers more than 4000 publications, many scholarly, with full text articles from over 3000 titles.	Libraries' home page Top Ten Electronic Resources and Databases
Ebsco Business Source Premier Business magazine articles from <i>Forbes</i> , <i>Fortune</i> , <i>Business Week</i> , <i>Industry Week</i> , <i>Across the Board</i> and hundreds more. The only electronic source for full-text of the Harvard Business Review .	1990 – current with some historical materials back to the 1960s Scholarly research from titles like: <i>Human Performance</i> , <i>Ergonomics</i> , <i>MIS Quarterly</i> , <i>Management Science</i> , <i>Journal of Economic Issues</i>	Libraries' home page Top Ten Electronic Resources and Databases
Proquest Direct is a collection of databases including Research Library Complete an interdisciplinary database as well as business information through ABI/Inform Global, ABI/INFORM Trade & Industry, and ABI/INFORM DATELINE.	1986 – current with some historical material back to the 1971 including 3500 journals and magazines, with full text available for approximately 2500 titles.	Libraries' home page Top Ten Electronic Resources and Databases

Finding Journals

Many of the articles in the databases above are *not* linked directly from the database. You need to find an electronic or *paper* copy of the journal containing your article.

Infolinks: The Library Catalog (<http://library.uark.edu/>) is the most accurate listing of journals we own or access. If the Library does not subscribe to the journal, a copy of the article can be requested through **ILLiad**, our InterLibrary Loan service.

Engineering information assistance -- <http://libinfo.uark.edu/engineering/>