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- Readers' Guide to Chemistry and Chemical Engineering

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The University of Aston in Birmingham



**READERS' GUIDE TO
CHEMISTRY AND CHEMICAL
ENGINEERING**

READERS' GUIDE TO CHEMISTRY AND CHEMICAL ENGINEERING

Note

This list is not intended to be comprehensive but merely to indicate some of the types of literature available. Not all items are held by the University Library, the holdings of which are shown in the Catalogues. Items asterisked are not in the Library stock.

The Library staff are always willing to give whatever assistance they can and will try to obtain any required publication not in stock.

READERS' GUIDE TO CHEMISTRY AND CHEMICAL ENGINEERING

GENERAL GUIDES—how to trace books.

1. T. Besterman: *World bibliography of bibliographies*. An index to bibliographies on all subjects covering the literature to 1963, arranged by subjects, with vol. 5 forming the index.
2. *Books in Print*—a list of books available from American publishers indexed by author and title.
3. *British Books in Print*—an index of British books currently in print and on sale. Consists of author index and title index.
4. *British National Bibliography*—lists all new British publications weekly, with quarterly and annual cumulations, giving full bibliographic details. Arranged by subject matter with full author, title and subject indexes.
5. G. Chandler. *How to find out*—a guide to the sources of information for all, arranged by the Dewey Decimal Classification.
6. *Cumulative Book Index*—a world list of books in the English language, published in New York nine times a year with quarterly, biannual and annual cumulations. Authors and titles in one sequence.
7. *Cumulative Book List*—published by Whitaker and giving details of current and forthcoming British books, with periodical cumulations.
8. *National Union Catalog*—a list of works catalogued by the Library of Congress and a large number of co-operating libraries, forming an important guide to most of the significant books published throughout the world. Issued nine times a year, with quarterly and annual cumulations.

GUIDES TO SCIENTIFIC LITERATURE

1. Aslib. *British scientific and technical books*. A select annotated list of recommended books published in Great Britain and the Commonwealth 1953-7; continued by *Aslib Booklist*. Issued monthly.
2. *Bibliographic Index*—a monthly cumulative bibliography of bibliographies taken from 1,500 periodicals and arranged alphabetically by subject headings. Covers books, pamphlets and articles, giving the pagination of the bibliography.

3. R. J. P. Carey: *Finding and using technical information.*
4. *Catalogue of Lewis's medical, scientific and technical lending library.* Covers the period to the end of 1963, in 2 volumes (1) author and title list (2) a classified index; supplemented by quarterly lists.
5. R. R. Hawkins: *Scientific, medical and technical books published in the U.S.A.* A select list of the most important books written by American and Canadian citizens and generally available between 1952 and 1956. Gives full details, including an abridged table of contents.
6. B. Houghton: *Technical information sources.*
7. McGraw-Hill *Basic bibliography of science and technology.* A classified arrangement with descriptions of 8,000 current books.
8. L-N. Malclès: *Les sources du travail bibliographique.* Volume 3 covers the exact sciences and technology.
9. *New Technical Books*—a monthly selective list of important new titles, arranged in broad subject groups and covering all levels.
10. P. B. Steckler: *American scientific books.* Covers the more recent period, annually since 1960.
11. *Technical Book Review Index*—published monthly by the Special Libraries Association, locates reviews of scientific and technical books in journals and publishes extracts of these.
12. A. J. Walford: *Guide to reference material.* A signpost to the main reference books and recent bibliographies, with emphasis on British works. Contains over 3,000 entries in classified order. Volume 1 deals with science and technology.

Details of new scientific and technical books can also be found in catalogues of publishers, e.g. McGraw-Hill, Wiley, and in the specialist journals, e.g. *Chemical and Engineering News*, *Chemistry and Industry*, *Nature*, *Journal of Chemical Education*, etc.

GUIDES TO THE LITERATURE OF CHEMISTRY AND CHEMICAL ENGINEERING AND RELATED SUBJECTS

(a) Related Subjects

1. Anthony, L. J.: *Sources of information on atomic energy.*
2. B. H. Dalton: *Sources of engineering information.*

3. B. M. Fry and F. E. Mohrhardt: *Guide to information sources in space science and technology*. Covers most of the engineering and physical sciences with emphasis on current sources, both published and unpublished.
4. E. B. Gibson and E. W. Tapia: *Guide to metallurgical information*. An international coverage of literature and other sources.
5. J. E. Holmstrom: *Records and researches in engineering and industrial science*.
6. N. G. Parke: *Guide to the literature of maths and physics and related works on engineering science*. The first part covers library techniques and methods of study, the second part is a bibliographical guide under 150 subject headings.
7. U.S. National Bureau of Standards: *Guide to instrumentation literature*, by J. F. Smith, W. G. Brombacher and L. M. Van der Pyl. Compiled from the technical literature to enable information on instrumentation to be traced and supplied. Covers a very wide range of material. Author and subject indexes are provided.

(b) Chemistry and Chemical Technology

1. American Chemical Society. *Key to the pharmaceutical and medicinal chemistry literature*. (Adv. in Chem. 16).
2. American Chemical Society: *Literature resources for chemical process industries*. (Adv. in Chem. 10). Covers the main facets of the chemical industry, with extensive literature references.
3. American Chemical Society: *Searching the chemical literature*. (Adv. in Chem. 30). Symposia papers with a practical approach.
4. R. T. Bottle: *Use of the chemical literature*. An up-to-date work with exercises for library practice.
5. C. R. Burman: *How to find out in chemistry*. A summary of the literature, mainly British and American.
6. G. L. Clark and G. C. Hawley: *Encyclopedia of Chemistry*. "Chemical literature"—brief account (pp. 210-213).
7. E. J. Crane, A. M. Patterson and E. B. Marr: *Guide to the literature of chemistry*. A standard work, and probably the most comprehensive.
8. G. M. Dyson: *Short guide to the chemical literature*. Discusses the main literature forms with principal examples.
9. E. E. Kirk and D. F. Othmer: *Encyclopedia of chemical technology*. An account of the literature of chemistry and chemical technology appears in Vol. 12, pp. 500-511.

10. Library Association County Libraries Group. *Readers' guide to books on chemical technology.*
11. M. G. Mellon: *Chemical publications, their nature and use.* Deals with primary, secondary and tertiary sources and includes practical library work.
- 12.* B. A. Soule: *Library guide for the chemist.* Gives a good account of Beilstein, otherwise somewhat dated.
13. Thorpe's *Dictionary of applied chemistry.* A survey of the literature appears in Vol. 8, pp. 613-620.

PERIODICALS

Periodicals usually appear at regular intervals and the information they contain is therefore usually the most up to date available, providing a guide to current research.

GENERAL GUIDES—and guides to general science periodicals—useful for checking titles, holdings and publication details.

1. *Ayer's Directory of newspapers and periodicals.* Deals with American and Canadian publications
2. *British Union Catalogue of Periodicals*—covers periodicals in all subjects held by British libraries from the 17th Century to 1960 under the name of the sponsor if contained in the title. Now has a quarterly continuation.
3. *Current periodicals in the Science Museum Library.*
4. *Current serials received by the National Lending Library for Science and Technology.*
5. M. J. Fowler: *Guides to scientific periodicals.*
6. *Periodical Publications in the Patent Office Library.*
7. M. Toase: *Guide to current British periodicals.* An annotated list of current titles.
8. Ulrich's *International Periodicals Directory.* Science, technology and medicine are dealt with in Volume 1. Lists world periodicals by subject with full details.
9. *Union List of serials in libraries of the U.S. and Canada.* 3rd ed. Gives information on a vast number of periodicals in all subjects held by American libraries. Continued and supplemented by *New Serial Titles* (monthly).

10. *World List of Scientific Periodicals*. Shows the history of periodicals appearing between 1900 and 1960, with recommended abbreviations, and holdings in British Libraries, arranged strictly by title. Now continued by the *British Union Catalogue of Periodicals*.

GUIDES TO CHEMISTRY AND CHEMICAL ENGINEERING PERIODICALS

1. *List of Periodicals Abstracted by Chemical Abstracts*. Issued every 5 years with annual supplements. A most comprehensive list of almost 10,000 titles with full bibliographical details, recommended abbreviations, and holdings including those of the N.L.L. and the Chemical Society. Arranged by abbreviation.
2. *Periodica Chimica*—the list scanned by *Chemisches Zentralblatt*. Gives full details, including dates and changes of title.
3. *Periodicals in the Chemical Society Library*.

CURRENT AWARENESS PUBLICATIONS—to keep research workers informed about the latest developments in advance of the normal journals and abstracting publications.

- 1.* *Chemical-Biological Activities*—a fortnightly guide to the contents of journals covering the biological action of organic compounds.
- 2.* *Chemical Titles*—a fortnightly publication of the A.C.S. listing titles from world journals. Each issue contains a permuted keyword index providing one alphabetical sequence of all important words in the titles of articles, a bibliographical listing of journals and their contents, and an author index.
3. *Chemistry and Industry*—a summary of recent work appears monthly in the last issue of this journal.
4. *Current Chemical Papers*—a monthly classified list of new papers in journals received by the Chemical Society Library.
5. *Current Contents*—reproduces weekly the contents pages of a wide range of journals. In 3 editions, one of which covers the chemical sciences.
- 6.* *Index Chemicus*—a rapid service which indexes new chemical compounds and syntheses.
7. *Industrial and Engineering Chemistry*—this journal publishes annual reviews on (a) fundamentals (b) materials of construction.
- 8.* *Science Citation Index* shows which of an author's publications have been cited as references by other workers.

ABSTRACTS—abridged accounts of published articles which enable scientists to keep in touch with work in their field and also permit retrospective searches to be made.

GUIDES TO ABSTRACTS

1. D.S.I.R. *Technological abstracts originating in the British Commonwealth.*
- 2.* International Federation for Documentation: *Abstracting services in science, technology, medicine, agriculture, social sciences and humanities.*
3. *KWIC Index to the English language abstracting and indexing publications currently being received by the N.L.L.* Titles are arranged in one alphabetical sequence containing all important subject keywords of the titles.
4. National Federation of Science Abstracting and Indexing Services: *Guide to the world's abstracting and indexing services in science and technology.* Consists of an alphabetical arrangement by title, with annotations, of services providing abstracts, giving details of sponsor, coverage, frequency, date, languages covered, indexes provided. There is also a classified section arranged by the Universal Decimal Classification. It supersedes the *Index Bibliographicus.*

GENERAL ABSTRACTS—covering a wide field.

1. *Applied Science and Technology Index.* Similar to *Engineering Index* but covers fewer periodicals and gives less detail. Has no author index.
2. *British Technology Index*—a monthly subject index to standard British technical journals. Has no author index.
3. *Engineering Index*—a monthly bulletin with an annual cumulation, arranged by alphabetical subject headings and covering a broad range of subjects including applied chemistry and chemical engineering. Gives brief summary. Author index.
4. *Science Abstracts—Physics Abstracts.* Contains much of interest to physical chemists. Author and detailed subject indexes.

ABSTRACTS DEALING WITH CHEMISTRY AND APPLIED CHEMISTRY GENERALLY

1. *Abstracts of Papers—A.C.S.* Summarises papers given at national and sectional meetings of the A.C.S.
2. *British Abstracts.* An important service which covered the period 1926-53.

- 3.* *Bulletin Signalétique*. A comprehensive French service in many sections, two of which cover chemistry.
4. *Chemical Abstracts* is the most important of all abstracting journals, and is the only general chemical abstracting service in English. Comprehensive, fairly up to date, fully indexed. Cumulative indexes published.
- 5.* *Chemisches Zentralblatt*. Concise, informative, particularly good for Eastern European literature, but written in German. Fully indexed by author and subjects.
- 6.* *Referativnyi Zhurnal*. A vast Russian abstracting service, of which one section covers chemistry. A translation of the non-Western abstracts it contains is published in the U.S.

SPECIALISED ABSTRACTS

1. *A. S. M. Review of Metal Literature*. Monthly classified lists, with annual cumulations and indexes.
2. *Analytical Abstracts*. Monthly, comprehensive, informative, well-indexed.
3. *Biological Abstracts*. Often of chemical or biochemical interest. Key-word indexes in each issue.
4. *British Ceramic Abstracts*. Published in the Transactions of the British Ceramic Society.
- 5.* *Ceramic Abstracts*. Appear in the Journal of the American Ceramic Society.
- 6.* *Chemical Market Abstracts*. Indexed by firm, industry, and product.
7. *Fuel Abstracts and Current Titles*. Published by the Institute of Fuel, broadly classified.
8. *Gas Chromatography Abstracts*. Abstracts over 100 journals with detailed indexes.
9. *Metallurgical Abstracts*. Published with the Journal of the Institute of Metals, covers non-ferrous metals.
- 10.* *Mineralogical Abstracts*.
11. *Nuclear Science Abstracts*. World coverage, fully indexed, includes relevant aspects of chemistry and applied chemistry.
12. *Rapra Abstracts*. Cover rubber and plastics.
- 13.* *Rheology Abstracts*. Classified under subject headings, fully indexed, published by British Society of Rheology.

14. *Theoretical Chemical Engineering Abstracts*. Published by the Technical Information Co.

ABSTRACTS IN JOURNALS—often slanted to the special interests of the reader.

The following journals contain important abstracts sections:

1. *Angewandte Chemie*.
2. *British Chemical Engineering*.
- 3.* *British Hydromechanics Research Association Bulletin*.
4. *Chemical Engineering Science*.
5. *Chemistry and Industry*.
- 6.* *Chemical Process Patents Bulletin*.
- 7.* *Chimie et Industrie* and its supplement *Génie chimique*.
8. *Clinical Chemistry*.
9. *Journal of Applied Chemistry*.
10. *Journal of Chemical Education*.
11. *Journal of the Iron and Steel Institute*.
12. *Journal of the Science of Food and Agriculture*.
- 13.* *Journal of the Society of Dyers and Colourists*.
- 14.* *Soap and Chemical Specialities*.

REVIEW SERIES—often provide up to date state-of-the-art accounts of research in particular fields. Useful for background purposes and as refreshers. Often entitled *Advances in . . .*, *Reviews in . . .*, *Progress in . . .* and usually have extensive bibliographies. See Library Periodicals List under appropriate words. Some important ones are:—

1. *Annual Reports on the Progress of Chemistry*.
2. *Chemical Reviews* (A.C.S.)
3. *Quarterly Reviews* (C.S).
4. *Reports on the Progress of Applied Chemistry*.
5. *Russian Chemical Reviews*.
6. *R.I.C. Lecture Series*.

TRANSLATIONS. The problem of research published in foreign languages can be covered by more informative abstracting, publication of cover-to-cover journal translations, or by translation of individual articles.

Cover to Cover Translations. Many are published by Consultants Bureau, Faraday Press and Societies. Current lists can be found in the Library of Congress *Monthly Index of Russian Accessions* and in *Technical Translations*.

Individual Translations are made by many organisations including RAPRA, PERA, ISI (BISITS), N.L.L. (Russian only), and Henry Brucher in California (Metallurgy). The University Library can arrange for translations to be made through its Panel of Translators.

Translations are listed in:

1. *AEA Monthly List of Publications available to the Public.*
2. *Chemical Abstracts*—U.S. Atomic Energy Commission Reports in particular.
3. *Library of Congress Monthly Index of Russian Accessions.* Lists translated titles of individual articles in Soviet journals.
4. *N.L.L. Translations Bulletin*—records translations received.
5. *Nuclear Science Abstracts.*
- 6.* *Translations Bulletin*—published by Euratom.
7. *Technical Translations* (the main guide) lists translations collected by Federal Agencies and other sources. Published semi-monthly with detailed indexes.

Translations are collected by: National Lending Library—particularly from the Russian. In the U.S.—by the Clearinghouse for Federal Scientific and Technical Information, and by the Special Libraries Translation Center. An index to translations from many languages is held by Aslib in London. These can be obtained through the Library which also has its own small collection.

THESES are important sources of original research but are normally difficult to locate. Some are listed in *Chemical Abstracts* (if published in journals or recorded in *Dissertation Abstracts*). An indication of theses likely to be available in the future can be obtained from the *ACS Directory*

of Graduate Research and Scientific Research in British Universities and Colleges. Separate lists are published e.g. for London, Leeds, Oxford and Cambridge. The main source for locating British theses is the *Aslib Index to Theses accepted for higher degrees in the Universities of Great Britain and Ireland.* Published annually from 1950/51 with full details under subject headings. *Dissertation Abstracts* covers the major American Universities and gives an abstract of each thesis with full bibliographical details. In two sections (A) Humanities, (B) Sciences and engineering.

PATENTS are an important source of original research and are of great commercial significance.

They are available in the Patent Office Library and in the major Public Libraries appointed as depositories, e.g. the Commercial Library of Birmingham Public Libraries.

British Patents are listed in the *Official Journal (Patents)**; American in the *Official Gazette**, weekly, which also provides an illustrated abridgement; and German ones in the *Patentblatt**.

Other countries have similar publications.

British patents are abstracted in the official *Abridgments of Specifications**, published in 25 groups at intervals.

Patents are also abstracted in the main abstract journals and in the various trade journals such as *American Dyestuffs Reporter**, *Chemical Age**, *Chemical Trade Journal** etc.

The Derwent Information Service publishes:

*British Patents Abstracts** —weekly

*German Patents Abstracts** —weekly

*Soviet Inventions Illustrated** —monthly

This service also publishes abstracts in chemistry and chemical engineering for France, Japan and Belgium, and for other countries grouped together in special fields.

STANDARDS—publications of great industrial importance which assist in maintaining quality and uniformity in a wide range of products and processes. The University Library maintains a complete current collection of British Standards which are indexed and summarized in the *BSI Yearbook* and its monthly supplement *BSI News*. Sectional lists are also issued for special topics including chemical engineering, and chemicals, fats, oils and scientific apparatus. The University Library also has a current set of ASTM standards published by the American Society for Testing and Materials.