

**Selected members of the CCL-EAR Committee review of
The Merck Index
November 2004**

In November of 2004, selected members of the California Council of Chief Librarians, Electronic Access and Resources Committee (CCL-EAR), undertook a “hands-on” review of the Merck Index online (13th edition).

The Merck Index includes over 10,000 monographs (i.e. detailed descriptions) covering drugs and pharmaceuticals, common organic and inorganic chemicals, and laboratory reagents. The Index has been around since 1889, with the most recent editions published in 1983, 1989, and 1996. Entries include “compounds that have been selected by the editors on the basis of present or historic importance and interest” (from online documentation). This web version of this classic reference work is available from CambridgeSoft (www.cambridgesoft.com).

Selected members of the CCL-EAR Committee, independently or in concert with other qualified professionals on their campus library staffs, reviewed and evaluated The Merck Index. Though other staff may have helped in the review process, completion of the form was by the CCL-EAR committee member(s) only and not transferred to others. Ratings were based upon the potential value of the proposal to the California Community Colleges as a whole and not solely on the needs of any specific campus. Attributes of the information resources were assessed on a scale of 1 to 4 with 1 representing the “least value” and 4 representing the “most value.” The following attributes were examined:

INFORMATION DATABASE

Consider its functionality, the appropriateness of format (bibliographic/full-text), the content of the information, the adequacy of coverage (retrospective, current), and its value to the California Community Colleges as a whole.

SEARCH INTERFACE

Consider the functionality and ease of use of the interface. Is it intuitive or is an excessive amount of training required? Are any crucial features missing from the search interface?

USER SUPPORT SERVICES

If documentation is required for successful use of product, is it available, comprehensive, and well written? Is online help adequate and user friendly? Does vendor supply training if it is needed? Is a telephone help line available?

COST

If cost is available, does it seem reasonable in terms of comparable products?

ACCESSIBILITY OF SERVICE

Is access/connection to product reliable and stable? Is response time adequate?

OVERALL ASSESSMENT

#1 ---- No Support

#2 ---- No Support at this time. Future support conditional upon enhancements noted below in Comments Section.

#3 ---- Support and Recommend proposal be forwarded to California Community College libraries for their acceptance or rejection. Would like to see enhancements in product noted below in Comments Section.

#4 ---- Outstanding offer and opportunity. Recommend proposal be forwarded to California Community College campus libraries or their acceptance or rejection.

Following are the results of the CCL-EAR Committee's review as well as comments taken from the individual Review Reply Forms.

Information Database 3

The thirteenth edition (2001) of the Merck Index breaks down as follows: over 10,000 monographs with 4000 covering drugs and pharmaceuticals, 2000 covering naturally occurring substances and plants, 1000 on the elements and inorganic chemicals, 1000 on compounds of agricultural significance and several hundred on endogenous substances and biological agents. Since the last edition in 1996, over 5000 monographs have been revised, several hundred were condensed or deleted from the print version but retained in the online product. The database is updated on an irregular basis as new entries are made available by the Merck Company (updated twice in 2003). Entries can include the following categories of information (although not every entry includes every category):

- Monograph number (Note: numbers do not correspond to entries in earlier editions)
- Monograph title
- Chemical Abstracts registry number
- Chemical Abstracts name(s)
- Alternate name(s)
- Molecular formula, molecular weight, and % composition
- Literature references
- Structure
- Physical data
- Derivatives
- Use
- Therapeutic category and therapeutic category (veterinary)

Entries are both text and structure searchable. While the print version of the Merck Index provides indexes by organic name reactions, CAS registry number, therapeutic category and biological activity, formula, and name, the online product allows searching by these and any of several additional properties and attributes.

Search Interface 2

The Index home page is divided into four sections with corresponding links: Compound Search, Organic Name Reactions, Additional Tables, and General Information, with an additional link to information on system requirements. Each is described below:

Compound Search: For optimum use of the product, you must download a chemical drawing plug-in called ChemDraw. A free version of ChemDraw, which allows sophisticated chemical structure drawing and manipulation, can be downloaded from the Merck Index web site. The capabilities included in the free version are only a subset of features available at a cost in any of the more powerful versions of ChemDraw (for ChemDraw options, go to:

<http://products.cambridgesoft.com/family.cfm?FID=2>).

There are two search options, one with the ChemDraw plug-in and one without. In both cases, a query input form is provided with 29 search categories (e.g. molecular weight, properties, toxicity, melting point, monograph title) and the option to do a full text search. Because of the form format, the back button cannot be used to return to a previous screen. Users must instead use the refresh option. Text searching can include sophisticated narrowing and broadening strategies but a user would have to find the rules in the user guide. A navigation toolbar appears at the top of the form. The file menu provides options for display and search preferences. A chemistry novice (this reviewer falls into that category) might have problems with the search preferences without first studying the user guide. Options include things like "Hit any charge on heteroatom" or "Permit Extraneous Fragments in Reaction Full Structure(exact) Searches". Additional menu options allow users to save, store, and manage queries and "Hit Lists". Once a brief record is retrieved, the Show Details display presents a clearly labeled compound record and structure illustration vastly superior to the print version where students must flip back and forth between the monograph and the sample record in the front of the volume.

There are four types of structure searching: Substructure, Exact Structure, Identity, and Tanimoto Searching. Drawing structures uses the ChemDraw toolbar, which is prominently displayed on the search page. While the toolbar includes the various pieces needed to construct a structure, e.g. Acyclic Chain, Cyclopropane Ring, etc., instructions on how to use it are hard to find.

The list of Organic Name Reactions can be browsed or searched. It is "... intended to serve the professional chemist and student by describing organic chemical reactions which have come to be recognized and referred to by name within the chemistry

community.” It is a selected list that includes information on the discovery and/or development of the reaction, and a description of the transformation.

The Additional Tables section has PDF versions of the tables found in the print index including abbreviations and definitions, isotonic solutions, universal conversion factors, etc.

General Information includes the Forward and Explanatory Notes found in the print version, System Requirements and Plug-in Information, a Download Adobe Acrobat link, and the Merck Index User’s Guide in pdf.

User Support 1

User guides (yes; plural) are available but scattered around under different names. From the main introductory page of the Merck Index database, there is a downloadable PDF file called the “Merck Index User’s Guide” which is a fairly brief overview of the product. Within the compound search section, there is a “help” button on the menu which leads to a lengthy document called “ChemOffice WebServer Help” and another called the “ChemDraw Quick Reference Guide”. The former does go into considerable detail and has several useful sections that match up specific applications with menu options. The latter describes in detail the various menus and shortcuts available in the ChemDraw software. Even with the different user guides available, this product will require extensive training for students and possibly for science faculty, (although the sales representative assured me that this was intuitive... to chemists). Questions asked of the representative concerning numbers and names of community colleges that subscribe and the limitations of the free version of ChemDraw went unanswered after two weeks. This reviewer registered for a one-hour “webinar” on CambridgeSoft Databases (the Merck is one of several offered) but received no information on how to join the session. After three phone calls asking for instructions, the information was finally emailed but the session telephone number was not toll-free and I therefore declined to participate. A sales representative did follow up by sending links to the recorded web seminars but there were none that I considered useful for the community college level.

Technical support is not directly available by phone; requests must be emailed to them. I was able to speak with someone from tech support only after going through customer support and having a technician return my call. She was unable to direct me to one place where I could find basic instructions for using the Merck Index.

Cost 2

The base quote for a large campus is \$1200 but the Merck representative thought that, given enough interest, a consortium discount could bring the cost down to the \$300 per year range. Of course, this is considerably more than the \$65 cost for a print volume every 5-6 years but the advanced functionality of the online product is extensive. The vendor does give sizeable academic discounts for the paid subscription versions of the

ChemDraw software (e.g. \$350 vs. \$1100 for commercial access). CambridgeSoft may want to consider pricing a separate product without the ChemDraw plug-in.

Accessibility of Service 2

While the Merck Index home page was consistently available, access to the compound search feature was spotty, at best. Several times during the trial, my computer froze up before I could initiate a search. At other times, response time was extremely slow, even though the district uses a high-speed LAN connection. While there are no simultaneous user restrictions, remote access is only available using IP authentication, which means that many of the California community colleges would be unable to take advantage of this feature.

Overall Assessment 2

The Merck Index has been a reference staple for many years and the possibility of online access from the library, campus workstations, labs, and from off-campus is a much-anticipated next step. While this product from CambridgeSoft.com is extremely powerful and offers many features not available in the print version, it is also difficult to use and lacks a clearly organized user guide. The product, documentation, and most of its sales literature are geared to the professional scientist rather than to the student. Without the ChemDraw plug-in, it would still be a useful tool given the numerous access points and powerful Boolean searching capabilities. The ChemDraw software turns this product into a sophisticated tool but one that may be beyond the needs of the community college student.

Other reviews of this database:

Blake, Michael R. "The Merck Index". *Library Journal*, April 1, 2004: 131

Link from EbscoHost Academic Search Premiere: <http://tinyurl.com/6kbxh>

Link from Proquest Research Library: <http://tinyurl.com/4rh6w>