

Chapter XX

Meta Information System for Environmental Chemicals: Set-up and Analysis of its Contents

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PROLIFERATION OF ENVIRONMENTAL AND CHEMICAL INFORMATION

Chemistry and the environmental sciences are scientific disciplines with an enormous output of and demand for data. As of June 8th, 2000, **16,813,792** organic and inorganic substances have been registered in the Registry File of Chemical Abstracts Service (CAS, 2000). Since there is no indication that the increase in information in these fields will slow down within the foreseeable future, we shall have to cope with a growing flood of chemical and environmental information. A scientific approach is urgently needed to deal with this information abundance (Luckenbach, 1996). The enormous increase in chemical and environmental information implies a rise in on-line databases, CD-ROMs and Internet resources in these fields. With the estimated number of 304 million Internet users worldwide in March 2000 (NUA, 2000), many people have the tools to use these datasources.

In contrast to that citizens of the European Union do not feel well informed about environmental affairs – despite the fact that environmental problems are an issue they are concerned about (Europäische Umweltagentur, 1999). This is a problem of availability and accessibility. The Internet and the World Wide Web offer a suitable platform for the dissemination of information, but in contrast to other information sources the Internet is still too unstructured, and searches lead to unpredictable, sometimes unusable results (Streuff, 2000).

Thus, one of the main problems concerning environmental and chemical information on the Internet is where to find the information wanted. To answer this question, a management strategy to handle this variety of datasources is needed.

In this chapter two information management steps will be followed:

- Collecting and structuring the environmental and chemical information sources in so-called metadatabases or meta information systems/information systems
- Evaluating the contents of these metadatabases using multivariate statistical methods.

DIRECTORIES FOR ENVIRONMENTAL INFORMATION ON THE INTERNET

It is obvious that a lot of chemical and environmental information can be found in search engines and metasearch engines. However, it is commonly accepted that further tools are needed to retrieve the data wanted. These are specialty search engines and directories on specific subjects. These so-called directories are context-specific listings of relevant URLs. Only in a few cases do they comprise further descriptions on the original resource they link to. Directories are compiled by experts, hence rather small in size and have no claim to completeness at all. A few examples of such directories are given in Table 1.

Consulting these directories is a first step in finding environmental and chemical information. These directories differ a lot in size, content and scope. Some are research projects with a couple of experts working on the compilation of data (example: chemie.de) and others are more or less setup by interested experts as a side effort of their main research area.

Table 1: Directories for Environmental Issues

Name of directory	URL	Subject	Language
Amazing Environmental Organization Web Directory	http://www.webdirectory.com/	environment	EN
Best Environmental Directories	http://www.ulb.ac.be/ceese/meta/cds.html	environment	EN
Chemie.de	http://www.chemie.de	chemistry, environment	GE, EN
EcoNet	http://www.igc.org/igc/gateway/enindex.html	environment	EN
Environment Toxicology Resources	http://www.pitt.edu/~martint/pages/envtox.htm	environment toxicology	EN
Environmental Sites on the Internet	http://www.lib.kth.se/~lg/eindex.htm	environment	EN
SierraClub Protection the Environment	http://www.sierraclub.org/	chemistry	EN
Where to find MSDSs	http://www.ilpi.com/msds/index.html	chemistry, environment	EN

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