

SAFETY AND THE INTERNET

THE INTERNET AS A SAFETY INFORMATION RESOURCE

In recent years, the Internet has become a valuable resource for professionals, students and other people in search of information. The World Wide Web has exploded in size, now numbering hundreds of millions of pages. Virtually every piece of information you might ever need can be found there... if you know how and where to look. This Chapter is intended to give you advice on how you can find the safety, health, environmental and government regulatory information that you need to run your safety program.

PROBLEMS WITH USING THE INTERNET FOR INFORMATION

The problem with using the Internet as a safety resource is NOT whether the information that you need is available... it almost certainly is! Rather, the problems are likely to come in one of these areas:

- Finding the information you want (and ONLY the information you want),
- Trusting the information you find, and
- The trend on the Internet toward “Pay Sites” rather than “Free Sites”.

FINDING INFORMATION ON THE INTERNET

Compare the task of finding a paragraph of information on the Internet to finding a paragraph of information in a large college library. The Internet can be thought of as a library. The Internet websites correspond to the library’s books. The web pages correspond to pages in the books. When you want to find information in a library, you don’t just go into the shelves and start pulling down books at random. Instead, you use a card catalog or an index to direct you to the correct book.

The Internet can be used in a very similar manner... we don’t just wander around the Internet, we use the available “card catalogs” and “indices”, which, on the Internet, are known as SEARCH ENGINES. Learning to find the correct website on the Internet is as simple as learning to effectively use the proper search engines.

The type of information that you need determines the best search engine to use.

The [Altavista Search Engine](http://www.altavista.com/) is among the best for seeking technical information. You can find [Altavista](http://www.altavista.com/) here:

URL: <http://www.altavista.com/>

A common problem is finding too much information in a search. For example, searching for the two words **safety program** results in almost FIVE MILLION matches, the first 20 of which are shown to you! So, really, effectively using a search engine to get a manageable number of results requires you to know how to refine your search terms.

Altavista allows you to search for an exact match to a phrase by enclosing the phrase in quotation marks. Refining the example above, searching for **"safety program"** (in quotes) reduces the number of results from 5,000,000 to 82,000. This is still too many to be useful, although a quick look at the first page or two of results may find what you are looking for.

Altavista allows you to search for multiple words, or multiple phrases, in the same search, and adding search terms is the best way to limit the results. If we further refine this search to two phrases:

"safety program" "machine guarding"

the number of results drops to 661, and the first several pages of results shown will probably provide the information needed.

One useful search strategy is to start by entering one or two search terms or phrases in the search window and reviewing the results. If there are too many results and the first page or two of results do not look promising, then add additional search terms or phrases, one at a time, until you find your answer.

You will also find that the order of the search terms makes a difference. If you are not getting good search results, try rearranging the search terms.

Altavista's "Advanced" search gives you additional ways to refine your search. Look for the ADVANCED link near the search term window.

For general knowledge searches, the [Google Search Engine](#) is an excellent choice. [Google](#) is what is known as a "meta" search engine, in that [Google](#) sends your search terms to several other search engines and presents you with a compilation of the results. You can find [Google](#) here:
URL: <http://www.google.com/>

Again, you can click on the ADVANCED link to search for multiple terms, phrases, etc.

Another good general knowledge meta search engine is the [Dogpile Search Engine](#). It processes its results in a different way from Google. Find [Dogpile](#) here:
URL: <http://www.dogpile.com/>

For finding individual businesses and also types of businesses, the [Yahoo Search Engine](#) is useful. Find [Yahoo](#) here:
URL: <http://www.yahoo.com/>

Once you have found an appropriate website, you will often find a “Search This Site” feature that will allow you to find the webpage that you need.

TRUSTING THE INFORMATION YOU FIND ON THE INTERNET

The Internet has been referred to as “the Wild Wild West” of information. Anyone with \$100 to buy a web authoring software package and \$10 a month for fees can have his own web site. There are very few rules, and the owner of a website can say almost anything without regard for truth so long as he avoids libel and the most disgusting forms of pornography. When you find information on the Internet, it might be:

- Technically correct and fairly presented
- Technically correct but presented in a biased manner to serve the personal agenda of the person or group that owns the site. Consider, for example, how differently a major newspaper, an environmental group and a wood products manufacturers’ trade association might describe the same proposal to cut timber in a National Forest!
- Technically incorrect because the person or group that owns the site intentionally misrepresented the truth, again to further their own agenda, or
- Technically incorrect because the person or group that owns the site is just wrong, regardless of their intent.

The first rule of thumb for trusting information you find on the Internet is to “KNOW YOUR SOURCE”. Consider what person or group put up the website and what agenda, if any, they are pushing. Consider also how far removed the site is from the source of the information. For instance, if you were looking for the text of an OSHA standard, you could trust the information you found on OSHA’s own website more than you could trust information you found in “Joe’s Safety Site”.

The second rule of thumb, especially regarding sites that are trying to sell you something, is “If the deal seems too good to be true, it probably isn’t true.” Use common sense: no one is going to sell you a \$1,000 piece of equipment for \$50... although they might SAY they will in order to steal your \$50!

THE TREND TOWARD “PAY SITES” ON THE INTERNET

In the early days of the Internet, website owners believed that an advertiser-supported revenue model would bring in enough revenue to make a website profitable. Website owners sold space on their web-pages for advertisers to display banner ads. At first, everyone saw the same ads, or random ads. Later, advertisers found ways to track

your Internet usage and to show you “targeted” ads... ads for things they believed you would be interested in, based on the websites you had visited in the past. This advertiser-supported revenue model has proven to be a failure. Site visitors simply ignore the ad banners, even targeted ad banners, or even install special software to block out the ads on their computers. As a result, the amount of money that advertisers are willing to pay a site owner for “banner views” and “ad clicks” has dropped to almost zero, and the website owners are looking for other sources of revenue.

Many sites, especially sites with valuable information, have gone from “free sites” to “subscription” sites. To use these sites, you must pay a per-use, monthly or annual fee.

Expect this trend to continue, and for more and more non-government sites to make this changeover. Your choices at this point are: (1) pay the fee to use the site, or (2) find the information somewhere else.

STARTING POINTS

The remainder of this chapter contains a listing of links to government and non-government websites that contain safety and health related information. These links are presented in two formats: a clickable link for people reading this on their computer and a text link for people who are reading this on paper.

This list is current as of June, 2008. However, Internet sites change on a daily basis and this information will become obsolete and incorrect over time.

RISK CONSULTANTS SAFETY LINKS

Table of Contents

This section contains links to web sites and pages having to do with Safety, Industrial Hygiene and Risk Management. The information is divided into the following categories:

- [U S Government Sites](#) other than OSHA and EPA.
-  [OSHA - U S Occupational Health & Safety Administration \(OSHA\)](#)
-  [EPA - U S Environmental Protection Agency](#)
- [Standards and Institutes](#)
- [General Safety References](#)
- [Industrial Hygiene Links](#)
- [Professional Organizations](#)

- [Chemical Hazard Information](#)

US Government Sites

Sites operated by US Government Agencies (OSHA and EPA sites listed separately).

- [THOMAS: Legislative Information on the Internet](#) - Besides its stated purpose of providing legislative information, this site has doorway links to virtually every federal government agency and office (At the very bottom of THOMAS home page.)
URL: <http://thomas.loc.gov/>
- [US DOE's Office of Scientific and Technical Information \(OSTI\)](#)
URL: <http://www.osti.gov/ostipg.html>
- [The US House of Representatives -- Internet Law Library](#)
TEMPORARILY OUT OF SERVICE
- [US Department of Energy \(DOE\)](#)
URL: <http://www.energy.gov/>
- [US Department of Transportation \(DOT\)](#)
URL: <http://www.dot.gov/>
- [US DOT's National Transportation Safety Board](#)
URL: <http://www.nts.gov/>
- [US Federal Emergency Management Agency \(FEMA\)](#)
URL: <http://www.fema.gov/>
- [US Food and Drug Administration \(FDA\)](#)
URL: <http://www.fda.gov/>
- [US Mine Safety and Health Administration \(MSHA\)](#)
URL: <http://www.msha.gov/>
- [National Institute for Occupational Safety and Health \(NIOSH\)](#) – A part of the Centers for Disease Control.
URL: <http://www.cdc.gov/niosh>
- [US Nuclear Regulatory Commission \(NRC\)](#)
URL: <http://www.nrc.gov/>



OSHA - OSHA – U. S. Occupational Health & Safety Administration

Some sites operated by OSHA. Best source for standards, interpretations, quips, operations manuals; some safety training info.

-  **OSHA - [Occupational Safety and Health Administration \(OSHA\) Home Page](http://www.osha.gov/)**
URL: <http://www.osha.gov/>
- **[OSHA Search Engine](#)** - Look for **Search** link at the top of OSHA's home page **OR** click on the **Advanced** link on that page.
- **[OSHA Publications page](http://www.osha.gov/OshDoc/Additional.html)** - Here, you will be able to order printed copies of OSHA publications and to view many of these publications on-line.
URL: <http://www.osha.gov/OshDoc/Additional.html>
- **[OSHA Standards](#)** - Start here to see the index to the OSHA [General Industry \(1910\)](#) or [Construction Industry \(1926\)](#) Standards. Look for the Standards link on the OSHA Home Page
- **[OSHA Salt Lake City Technical Center](http://www.osha-slc.gov/SLTC/index.html)** - Here you will find links to OSHA's technical reference site and to a variety of downloadable booklets, training materials and slide presentations.
URL: <http://www.osha-slc.gov/SLTC/index.html>



EPA - EPA – U. S. Environmental Protection Agency

Where better to look for information on EPA rules and regulations than in the horse's mouth!

-  **EPA - [US Environmental Protection Agency \(EPA\) Home Page](http://www.epa.gov/)**
URL: <http://www.epa.gov/>
- **[EPA's Chemical Emergency Preparedness and Prevention Office](http://www.epa.gov/swercepp/acc-pre.html)** – Chemical Accident Prevention and Risk Management programs on a variety of chemical-related topics.
URL: <http://www.epa.gov/swercepp/acc-pre.html>

Standards and Institutes

You wouldn't try to play baseball without knowing the rules. The "rules" of the safety game are found in the [OSHA regulations](#) and in the standards issued by (or reported by) these organizations.

- [American National Standards Institute \(ANSI\)](#) – The ANSI standards form the basis of many OSHA standards and other commonly recognized technical standards. (Fee-based access.)
URL: <http://www.ansi.org>
- [American Society of Testing and Materials \(ASTM\)](#) - More standards and technical publications. (Fee-based access)
URL: <http://www.ansi.org/>
- [Document Center, Inc.](#) - Their home page says it best: "Document Center is your Standards Library". (Fee-based access)
URL: <http://www.document-center.com/>
- [ISO Online](#) - International Organization for Standardization home page.
URL: <http://www.iso.ch>
- [National Fire Protection Association \(NFPA\)](#) – All you ever wanted to know about fire safety and more. Publishers of the National Electrical Code and Life Safety Code.
UR: <http://www.nfpa.org/>

General Safety References

A variety of websites with content of interest to safety and health professionals.

-  - [ErgoWeb](#) - a one stop spot for ergonomics information, products, case studies, instructional materials, standards and guidelines, communication opportunities, ergonomics related news.
URL: <http://www.ergoweb.com/>
-  - [Vermont SIRI](#) - An excellent research site: on-line MSDSs, "safety" e-mail lists, training materials, safety graphics and links to other hazard information pages.
URL: <http://www.siri.org/>
[\[SIRI Alternate Server\]](#) URL: <http://www.hazard.com/>
- [Canadian Council for Occupational Health and Safety \(CCOHS\) Home Page.](#)
The CCOHS site has interesting information (although in line with Canadian rather than American law), and a very comprehensive "links" page. Also,

extensive MSDS and CHEMINFO databases.

URL: <http://www.ccohs.ca>

- [Safety Online, Inc.](http://www.safetyonline.net/) - Vendor site which styles itself as the premier information source for the Occupational Safety and Health industry. Safety chat, forums, products, news.
URL: <http://www.safetyonline.net/>
- [The World-Wide Web Virtual Library - Chemical & Process Safety](http://www.che.ufl.edu/WWW-CHE/topics/safety.html) - Resources relevant to chemical and process safety.
URL: <http://www.che.ufl.edu/WWW-CHE/topics/safety.html>
- [The World-Wide Web Virtual Library — Hazards and Risks Virtual Library](http://life.csu.edu.au/hazards/resources1.html)
URL: <http://life.csu.edu.au/hazards/resources1.html>
- [Canadian Emergency Preparedness Information Exchange \(EPIX\)](http://epix.hazard.net/index.html)
URL: <http://epix.hazard.net/index.html>
- [RISKLIST - Links to Internet Resources for Risk Managers](http://home.clara.net/rlowther/risklist.html)
URL: <http://home.clara.net/rlowther/risklist.html>
- [US Bureau of Labor Statistics](http://www.bls.gov) - The Bureau of Labor Statistics is the principal fact-finding agency for the Federal Government in the broad field of labor economics and statistics.
URL: <http://www.bls.gov>
- [Periodic Table of Elements](http://www.orcbs.msu.edu/radiation/periodictable/periodictable.html) - The Periodic Table displayed on this page is set up as a clickable map. The individual elements can be clicked to access information about that given element.
URL: <http://www.orcbs.msu.edu/radiation/periodictable/periodictable.html>
- [USPS ZIP+4 Code Lookup](http://www.usps.gov/ncsc/lookups/lookup_zip+4.html) You always need one of these in the middle of the night!
URL: http://www.usps.gov/ncsc/lookups/lookup_zip+4.html

Industrial Hygiene Links

-  [AIHA](http://www.aiha.org) - [American Industrial Hygiene Association \(AIHA\) Home Page](http://www.aiha.org)
URL: <http://www.aiha.org>
- [American Board of Industrial Hygiene](http://www.abih.org) - A not-for-profit corporation organized to improve the practice and educational standards of the profession of industrial hygiene, issues Certified Industrial Hygienist certifications.
URL: <http://www.abih.org>
- [Industrial Hygiene & Safety News](http://www.ishn.com/) - Magazine site, good material.
URL: <http://www.ishn.com/>

- [American Conference of Governmental Industrial Hygienist](http://www.acgih.org/)
URL: <http://www.acgih.org/>
- [U.S. Army Center for Health Promotion & Preventive Medicine](http://chppm-www.apgea.army.mil/services/dohsdir.htm), Directorate of Occupational Health Sciences – The military view of environmental and industrial hygiene matters.
URL: <http://chppm-www.apgea.army.mil/services/dohsdir.htm>
- [Periodic Table of Elements](http://www.orcbs.msu.edu/radiation/periodictable/periodictable.html) - The Periodic Table displayed on this page is set up as a clickable map. The individual elements can be clicked to access information about that given element.
URL: <http://www.orcbs.msu.edu/radiation/periodictable/periodictable.html>

Professional Organizations

-  **ASSE** - [American Society of Safety Engineers \(ASSE\)](http://www.asse.org/) - The oldest and largest professional safety organization in the US, with 30,000 members and over 150 local chapters.
URL: <http://www.asse.org/>
-  **AIHA** - [American Industrial Hygiene Association \(AIHA\)](http://www.aiha.org)- The essential source for information on Occupational and Environmental Health issues.
URL: <http://www.aiha.org>
-  - [American Institute of Chemical Engineers \(AIChEWeb\)](http://www.aiche.org/) - Professional association of more than 50,000 members that provides leadership in advancing the chemical engineering profession.
URL: <http://www.aiche.org/>
-  - [American Society of Mechanical Engineers \(ASME\)](http://www.asme.org/) - A nonprofit educational and technical organization with emphasis on standard development, training and technical publications.
URL: <http://www.asme.org/>
-  - [Board of Certified Safety Professionals](http://www.bcsfp.org/) -- Certified Safety Professional (CSP) is a title or designation awarded by the Board of Certified Safety Professionals (BCSP) to individuals who meet the standards for a safety professional established by BCSP and continue to meet annual renewal and

recertification requirements.

URL: <http://www.bcsp.com>

-  **National Safety Council** - [National Safety Council \(NSC\)](#) - creators of the **Defensive Driving Courses**, among many other things. An excellent source for training materials.
URL: <http://www.nsc.org/>

Chemical Hazard Information

- [Agency for Toxic Substances and Disease Registry \(ATSDR\) — Science Page](#) - The Science Page of Office of the Associate Administrator for Science of the ATSDR, a division of the Centers for Disease Control.
URL: <http://www.atsdr.cdc.gov/science/>
- [Michigan State University — Office of Radiation, Chemical, and Biological Safety](#)
URL: <http://www.orcbs.msu.edu/>
- [Material Safety Data Sheet Links](#) – Courtesy of Michigan State University.
URL: <http://www.orcbs.msu.edu/pat/msdlinkmain.html>
-  - [Vermont SIRI Web Page](#) - An excellent research site: on-line MSDSs, "safety" e-mail lists, training materials, safety graphics and links to other hazard information pages.