

## MATERIAL SAFETY DATA SHEETS

A Material Safety Data Sheet (MSDS) is a document which provides information about the properties and hazardous nature of every chemical routinely sold in the U.S. Every chemical or material has its own MSDS. It is designed to provide both workers and emergency personnel with the proper procedures for handling or working with that substance. The MSDS will include information such as physical data (melting point, boiling point, flash point, etc.), toxicity, health effects, first aid, reactivity, storage, disposal, protective equipment, and spill/leak procedures. While the format of MSDSs tends to vary, they usually convey the same basic kinds of information.

ALL materials, not just "chemicals," have hazards associated with their use. This is particularly true if the material is misused without regard for its properties. Even "pure" water has a measured LD50 (the quantity necessary to cause 50% mortality in some living species) by intravenous injection, and you can drown in enough water if you can't swim.

The academic chemical laboratory, perhaps contrary to what you may suspect, is a relatively safe place. Experiments are designed to be safe, and every effort is made to avoid or to minimize the use of relatively toxic materials. Further, the instructors continually emphasize safe laboratory work habits. In the CHE 226 laboratory, in particular, we use relatively benign and common chemicals. The worst lab accidents or toxic reactions we have had over the years have been relatively minor cuts from broken glass, small acid burns from concentrated acids on the skin, and minor heat burns.

Nevertheless, students have the right to be provided information related to the toxic nature of the materials used in the laboratory. Pregnant women and those who anticipate possibly becoming pregnant in the near future should be particularly careful about exposure to chemicals. It is the purpose of MSDSs to provide you this information.

In the Department of Chemistry, a complete (paper) compilation of all the chemicals used in the CHE 226 laboratory is available in the Chemistry-Physics Branch Library for your perusal. There are two shelves of material, filed by Chemical Abstracts registry number of the chemical or material. Ask the Librarian or a Library Technician for assistance in finding what you need.

Extensive compilations of MSDSs are available on-line over the World Wide Web, to which you have access on campus in any of the Computer Laboratories. As long as you are a registered student, you do not even need a University computer account to access the Internet.

The Department of Chemistry maintains a site on the World Wide Web, which, along with a lot of information about our Department, provides an entry to information on laboratory safety. The URL for our home page on the web is – <http://www.chem.uky.edu>

[Note that the URL is case sensitive; lower and upper case letters must be entered properly.]

The page on our Web site which gets you directly to safety information and MSDS sheets is – <http://www.chem.uky.edu/resources/msds.html>

Once you get there, just click on the spot that says Material Safety Data Sheets. This shows two examples of an MSDS -- one for a very toxic nerve gas, VX, a second for a more typical laboratory chemical, benzoic acid. There is also a handy list of various other sites on the Internet that provide much more extensive listings of MSDSs.

If you need assistance accessing the Department's Web site, just ask the helpful workers at any of the University's Computer Laboratories.

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