

MILLER ENGINEERING, INC.

EXPERTISE AREA:

*Fires & Explosions:

- Vapors
- Electrical
- Chemical

* Chemical Contamination & Disposal

- Disposal Warnings & Requirements
- Soil & Ground Water Contamination Precautions
- Environmental & Water Contamination Mitigation

* Chemical Labeling & MSDS

- OSHA 29CFR 1910.1200
- ANSI Z129.1
- International

* Agricultural Chemical Safety:

- Pesticide, Herbicide, Fungicide
- Application, Disposal, & Contamination

Main Office:
2392 Fuller Ct.
Ann Arbor, MI 48105

Principals:
James M. Miller, PE, PhD
Mark R. Lehto, EIT, PhD

Managing Engineer:
Bradley Cook, PE, BSME

Staff Engineers:
Katie Lyons, PE, BSChE
Kelley Mullins, MSE
David N. Lehto, BSEAg

Affiliates:
Timothy Trokey, PE
- Structural Engineer
Warren Wagner, Ph.D.
- Materials Engineer

Toll Free: 888-206-4394
Main: 734-662-6822
Fax: 734-747-9712

E-mail: miller@
millerengineering.com



Fuller Technical Publishing
Ann Arbor, MI
734-662-9953

TECHNICAL BULLETIN:

Implementing a Hazard Communication Program

The Written Hazard Communication Program

For the fiscal year 2009, hazard communication was the third most frequently cited standard by OSHA. Failure to develop and maintain a written program was and is the most pervasive type of violation, with failure to provide training a close second. Establishing programs that include training will not only help eliminate these violations, but may also reduce other violations that are causally related to injuries and illnesses suffered by employees who are not receiving adequate training. Additionally, establishing written programs with training is likely to provide protection against many willful violation claims (Keene State College 2006, 2).

Consultants and OSHA administrators agree that the first step for employers using hazardous chemicals is to develop the written program, and the most important aspect of the written program is to designate a responsible administrator. That individual will be responsible for oversight and implementation of each of the five required tasks.

The overall written plan does not have to be lengthy or complicated. It is intended to be a blueprint for implementation of a program and to provide assurance to inside management and outside observers that all aspects of the HazCom requirements have been addressed. The written program must describe how the requirements for labels (and other forms of warnings), material safety data sheets, and employee information and training are going to be met in a facility.

For further information about HazCom implementation, see Dr. Miller's chapter on "Regulatory Issues" in ASSE's *Safety Professionals Handbook, Volume I: Management Applications*, (Joel M. Haight, editor, 2011).

Some chemical substances for which we have constructed histories include the following:

- * Asbestos
- * Sodium Nitrate
- * Perchloroethylene
- * Benzene
- * Tobacco
- * Vinyl Chloride

Some Chemical Manufacturers we have worked with in the past include:

- * Dow Chemical
- * Vulcan Chemical
- * Glitsa
- * Occidental Chemical
- * Conap
- * Hexel
- * Ashland Chemical
- * Monsanto Chemical
- * PPG

www.millerengineering.com

Integrating Info Into a Sample Program

Complying with the many OSHA guidelines involves compiling information and integrating it into a comprehensive written program. Several federal, state, and private example programs can be found via the Web. Of course, employers must tailor any program to accommodate their individual operations and regulatory needs. Just reading the document itself is an excellent tutorial for understanding the scope of the HazCom program and responsibilities placed on the program administrators.

Hazard Evaluation and Chemical Inventory: A Tiered Approach

A major step in a HazCom program is the chemical hazard evaluation and inventory process. This process is intended to result in a complete inventory of chemicals used in a particular workplace and other chemicals to which employees might be exposed. In light of the hundreds of chemicals that could possibly be present in an employer's establishment, a systematic means is necessary to survey the candidate chemicals to determine those that have been identified as occupationally hazardous. To this end, OSHA has attempted to assist by creating a document titled "Draft Guidance for Hazard Determination" (OSHA 2002). This document attempts to provide a methodology for creating a hazardous chemical inventory list for an entire facility.

The hazard evaluation process recommended by OSHA has been labeled as a tiered step approach. This means that the thoroughness to which a chemical must be evaluated depends on factors such as the common knowledge regarding the chemical, whether its health effects are under scientific review, and how prevalent the chemical is in a particular workplace. This process can be systematized into the following tiered set of steps (OSHA 2002, 12):

- Step 1. Create the Exhaustive Inventory List
- Step 2. Identify the "Floor" Chemicals
- Step 3. Analyze the Data Collected about the Chemicals
- Step 4. Document the Process and Obtained Results

Important follow-up steps include keeping inventory current, ensuring all chemicals are properly labeled, and ensuring that each container has a label.

OSHA Resources

Preparation of the written plan can be done most easily using good resources. Because there were so many citations issued for noncompliance with the HCS and many misunderstandings about the requirements, OSHA responded with extensive information to assist employers in their compliance efforts. To this end, there are many publicly available and reproducible bulletins offered by OSHA in both hard and electronic formats. Several of these documents have been used in the preparation of this chapter, and they are cited within. Among the key documents that would be useful to the program administrator are the following (OSHA 2000):

- All about OSHA, OSHA 2056
- Chemical Hazard Communication, OSHA 3084
- Employee Workplace Rights, OSHA 3021
- Consultation Services for the Employer, OSHA 3074
- Employer Rights and Responsibilities Following an OSHA Inspection, OSHA 3000
- How to Prepare for Workplace Emergencies, OSHA 3088
- OSHA Inspections, OSHA 2098
- Personal Protective Equipment, OSHA 3077
- Respiratory Protection, OSHA 3079

These and other OSHA documents can be located at www.osha.gov/ and www.osha-slc.gov/. Single hardcopies can be obtained free of charge from the OSHA Publications Office, P.O. Box 37535, Washington, D.C. 20013-7535; a self-addressed mailing label is requested along with your solicitation.