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

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TECHNICAL BULLETIN: Evaluating Compliance of Chemical Labels & MSDS (OSHA, ANSI, and the new GHS)

OSHA Hazard Communication Standard

The premiere standard for communicating hazards associated with chemicals found in the workplace is the Occupational Health and Safety Administration (OSHA) Hazard Communication Standard (HazCom) found in 29 CFR 1910.1200, which includes the following sections:

(a) purpose;
(b) scope and application;
(c) definitions;
(d) hazard determination;
(e) written hazard communication program;
(f) labels and other forms of warning;
(g) material safety data sheets;
(h) employee information.

Prior to the HazCom's promulgation in the mid-1980's, there was no national requirement that employees be provided information about the hazards associated with the chemicals they were handling, or instructions for remedial action to avoid or minimize the risk associated with those hazards.

Often Miller Engineering is hired to evaluate literature associated with hazardous chemicals. As a result, we have created analysis processes, which have been peer reviewed & published, for evaluating chemical product labels to section (f) above and for evaluating material safety data sheets(MSDS) to section (g) above. Our chemical staff has evaluated hundreds of labels & MSDS using these procedures. Often times cases of this nature involve long histories of employee exposure, therefore we typically track the scientific, medical, & corporate knowledge of the specific hazards of a given substance and compre this information with government regulatory requirements for labeling & MSDS.

ANSI Hazard Communication Standards

The American National Standards Institute has published the following standards, which are the primary consensus standards related to chemical hazard communication in the U.S.:
- American National Standard for Hazardous Industrial Chemicals - Precautionary Labeling (ANSI Z129.1)
- American National Standard for Hazardous Industrial Chemicals - Material Safety Data Sheets - Preparation (ANSI Z400.1)

ANSI Z129.1 provides recommendations for chemical label format, color, size, symbols, & wording. These aspects of a label are important in creating an effective warning that workers will heed.

ANSI Z400.1 provides guidelines for preparation of MSDS in a method that more closely resembles the Globally Harmonized System for Classification and Labeling of Chemicals (GHS; see reverse) than the current OSHA HazCom standard does.

Similar to the our evaluations to OSHA standards, Miller Engineering has established processes for comparing chemical product label and MSDS language with the ANSI guidelines.

Globally Harmonized System for Classification & Labeling of Chemicals

The United Nations adopted the Globally Harmonized System for Classification & Labeling of Chemicals (GHS) in 2003. The purpose of the GHS was to provide hazardous chemical classification systems definitions and outline components to be included on hazardous chemical product labels providing the opportunity for consistency between countries and even within a given country.

A good example of inconsistency within a given country is the definition of a flammable liquid. The following agencies differ in their classification of flammable liquids: OSHA, National Fire Protection Association (NFPA), the Department of Transportation (DOT), the Consumer Product Safety Commission (CPSC), and ANSI in Z129.1. These flammable liquid definitions differ from those in other countries as well, such as Canada's WHMIS and the EU's definition. Harmonizing these definitions will provide interagency & intercountry consistency to the definition of flammable liquids by those entities that choose to adopt the GHS guidelines.

Countries and agencies are not required to adopt the GHS guidelines. It is up to each country, and each agency within that country, to determine if and when it will implement the GHS guidelines.

In the United States, OSHA is now working to incorporate the GHS guidelines into the HazCom. While it may take up to 10 years to implement, Miller Engineering will stay current on the progress and incorporate the changes into our analyses, evaluating literature to the regulations contemporary to the time period of exposure.

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

Other Agency Labeling Requirements

Depending on the type of packaging, method of exposure, and chemical properties of a hazardous chemical, additional product labeling may be required other than that specified by OSHA.

Agencies such as the Department of Transportation, the Environmental Protection Agency, and the Consumer Product Safety Commission all regulate aspects of product labeling.

Further there are consensus organizations such as the National Fire Protection Agency (NFPA) and the National Paint & Coatings Association (NPCA) provide guidelines for information to include on product labels.

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

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