Update on OSHA Hazard Communication Standard

Introduction

OSHA and other US Agencies have been involved in a long term project to negotiate a globally harmonized approach to informing workers about chemical hazards. The result is the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). OSHA is in the process of revising its Hazard Communication Standard (HCS) (29 CFR 1910.1200) to make it consistent with the GHS. The new standard will include more specific requirements for hazard classification, as well as standardized label components, which will provide consistent information and definitions for hazardous chemicals and a standard approach to conveying information on material safety data sheets (MSDS). OSHA published its proposal on aligning the Hazard Communication standard with the GHS on September 30, 2009, and conducted public hearings in March 2010 to solicit public input.

The HCS and the Need for Revision

The HCS comprehensively addresses the evaluation of the potential hazards of chemicals and the communication of hazard information to workers. It is a performance-oriented standard that applies to any chemical known to be present in the workplace in such a manner that workers may be exposed under normal conditions of use or in a foreseeable emergency (29 CFR 1910.1200 (b)(2)). Regarding dusts and other particulates, a hazard evaluation must be conducted taking into consideration all discernible hazards, including that of explosibility. It is incumbent upon manufacturers and importers to provide information on the potential for and control of combustible dusts.

During a 17 month period, from November 2008 to March 2009, OSHA conducted 813 targeted inspections under their Combustible Dust National Emphasis Program. These inspections resulted in the issuance of 3,662 violations. The second most frequently cited standard was the HCS. A total of 167 citations were written against this standard, a number only exceeded by 206 citations under the Housekeeping standard (29 CFR 1910.22). In July 2009, OSHA published a Hazard Communication Guidance document designed to help manufacturers and importers of chemicals recognize the potential for dust explosions and to identify appropriate protective measures as part of their hazard determination responsibilities under the HCS.

OSHA's proposal to adopt the GHS will not change the framework and scope of the current HCS but will help ensure improved quality and consistency in the classification and labeling of all chemicals. In a 2006 study, the Chemical Safety Board reviewed the MSDSs of 140 known combustible dusts or powders to evaluate how effectively the MSDSs communicated the explosion potential. Although some 83MSDSs included some language referring to the explosive nature of the dust, most of that information was not specific or placed in the best location for employee use. For example, only seven of the 140 MSDSs specifically referenced the applicable NFPA standard for managing dust hazards; however, the nature and placement of combustibility warnings did not clearly emphasize the explosion potential of these materials. Of the 83 MSDSs that did include some form of dust hazard warning, only 10 percent addressed the combustibility and explosion potential in the “Hazard Identification” section, where chemical users would be most likely to look to find critical hazard information. None of the MSDSs
listed the physical properties necessary to determine the explosion potential of the material, such as the dust deflagration index ($K_{st}$), Minimum Ignition Temperature (MIT), Minimum Ignition Energy (MIE), or Minimum Explosible Concentration (MEC). Finally, the MSDSs that recommended avoiding dust accumulations failed to explain that the reason is to minimize the potential for catastrophic secondary explosions.

OSHA expects the proposed changes to the HCS to enhance worker comprehension, resulting in more appropriate handling and use of chemicals. The harmonized format of the safety data sheets will enable workers to access the information more efficiently. Currently, multiple labels and safety data sheets for the same product often must be developed when shipping to different countries. This creates a major compliance burden for chemical manufacturers and those involved in international trade, increasing the cost of providing the required hazard information. The adoption of the GHS will minimize this burden.

Major proposed changes to the HCS include:

- **Hazard Classification**: The proposed rule provides specific criteria for the classification of health and physical hazards, as well as the classification of mixtures.
- **Labels**: Chemical manufacturers and importers will be required to provide a label that includes a harmonized signal word, pictogram and hazard statement for each hazard class and category. Precautionary statements must also be provided.
- **Safety Data sheets**: Will be required to have a specified 16-section format.
- **Information and Training**: The GHS does not address training; however, the proposed HCS will require that workers are trained within two years of the publication of the final rule to facilitate recognition and understanding of the new labels and safety data sheets.

**How can Safety Consulting Engineers Help?**

Safety Consulting Engineers provides consulting and laboratory testing services to assist our clients in the areas of hazardous material property identification and the development and implementation of administrative and engineering controls designed to mitigate the hazards associated with hazardous materials. The manufacturers of hazardous chemicals, including combustible powders, are obligated under the present HCS to provide end-users with information regarding the physical properties of their products. OSHA inspections, under the NEP for combustible dusts, have been focusing on the HCS standard, particularly with regard to the need for the employer to provide employees with health and safety information and training where combustible powders and dusts are involved. Safety Consulting Engineers expects the burden on the material manufacturer to increase with the promulgation of the revised standard. We are available to discuss potential issues and offer testing services to assist our clients in fulfilling the requirements of the HCS.

**References**