



CAMPUS FIRE SAFETY CODE TALK

Campus Fire Safety e-NewZone

Changes in Chemical Hazard Communication

Laura Montville, Associate Engineer, NFPA

Individuals who work or study around hazardous chemicals must rely on the proper labeling and availability of safety information to prevent chemical accidents and to minimize damage should accidents occur. If your job or studies bring you into potential contact with hazardous chemicals, you should be aware of recent changes made by the Occupational Safety and Health Administration (OSHA) to the Hazard Communication Standard (HCS), which affect any workplace where employees or students may be exposed to hazardous chemicals.

The 2012 edition of the HCS aligns with the Globally Harmonized System, developed by the United Nations to standardize hazard communication and classification. The three major changes to the revised HCS are in the areas of: (1) hazard classification, (2) labeling, and (3) Safety Data Sheets (SDSs).

Hazard Classification

The revised HCS contains specific criteria for health and physical hazards so that the materials are classified consistently across manufacturers. The number system ranges from 1 to 4, with 1 being the most severe hazard and 4 being the least severe hazard.

Labeling

The specific elements which must appear on a hazardous chemical label can be determined after classifying the hazards of the material. Labels for shipped containers will now require pictograms, signal words (“danger” or “warning”), hazard statements, and precautionary statements. The pictograms consist of symbols that convey specific hazard information surrounded by a red border, in a square-on-point shape. There are eight pictograms required by the HCS, representing hazards such as carcinogens, flammables, explosives, irritants, gases under pressure, oxidizers, and acute toxicity. (This is not a comprehensive list.)

Labels on containers used in the workplace can use the same labels that would be on shipped containers under the revised rule, or can use label systems such as the NFPA 704 rating, as



CAMPUS FIRE SAFETY CODE TALK

Campus Fire Safety e-NewZone

long as they do not conflict with the HCS. (Keep in mind that the hazard category numbers from the HCS classification system should not be used to fill in NFPA 704 diamonds. The NFPA

704 number system ranges from 0 to 4, with 0 being the least severe hazard and 4 being the most severe hazard.)

Safety Data Sheets

The revised HCS does not significantly change the information required on SDSs, but it does change the format in which the information is presented. Also, it should be noted that they are called Safety Data Sheets as opposed to the formerly used Material Safety Data Sheets. Having a standardized format for SDSs allows workers, health professionals, and emergency responders to access and understand the information more efficiently, which is critical in an emergency. The Safety Data Sheet should be presented in a 16-section format as follows:

- Section 1. Identification
- Section 2. Hazard(s) identification
- Section 3. Composition/information on ingredients
- Section 4. First-Aid measures
- Section 5. Fire-fighting measures
- Section 6. Accidental release measures
- Section 7. Handling and storage
- Section 8. Exposure controls/personal protection
- Section 9. Physical and chemical properties
- Section 10. Stability and reactivity
- Section 11. Toxicological information
- Section 12. Ecological information
- Section 13. Disposal considerations
- Section 14. Transport information
- Section 15. Regulatory information
- Section 16. Other information, including date of preparation or last revision



CAMPUS FIRE SAFETY CODE TALK

Campus Fire Safety e-NewZone

How might these changes affect your school?

You will start to see changes in Safety Data Sheets and labels in places like laboratories, plant operations or maintenance facilities, and other locations where hazardous chemicals are used or stored. As always, employees and laboratory personnel must have access to Safety Data Sheets for all hazardous chemicals used. Some schools have physical copies available, while other schools purchase subscriptions or have access to electronic chemical safety databases. In case of a chemical accident, the SDS can be provided to medical personnel to ensure that the victim is treated properly and in a timely manner.

Your campus may use or store chemicals manufactured around the world, and previously, chemical manufacturers have been allowed to convey hazard information on labels and material safety data sheets in whichever format they choose. This practice may have led to confusion when chemicals from a variety of vendors were present, because symbols and hazard statements may not have been familiar or easily understood.

By adopting the Globally Harmonized System (GHS) into the Hazard Communication Standard, OSHA is taking a step towards uniformity in hazard classification criteria in the United States and around the world. All labels and safety data sheets from countries that adopt the GHS will be easily recognizable because there is one standardized approach to conveying chemical hazards to users. This will make it easier for users to quickly look at a label or a safety data sheet and know exactly what information is most pertinent at the time.

Campus employees should also be aware of upcoming deadlines as the revised HCA is phased in. Because many manufacturers have already begun using the new formats, the first deadline was to train all employees on the new label elements and SDS format by December 1, 2013. By June 1, 2015, compliance with all modified provisions is required, except that distributors may still ship containers labeled by chemical manufacturers or importers without a GHS label until December 1, 2015. After December 1, 2015, however, they will not be permitted to ship containers without a GHS label. By June 1, 2016, employers are required to have updated alternative workplace labeling and hazard communication programs and should continue to provide training for their employees as new hazards arise.



CAMPUS FIRE SAFETY CODE TALK

Campus Fire Safety e-NewZone

OSHA provides training materials and more information on their website,
<https://www.osha.gov/dsg/hazcom/>



Laura Montville is an associate engineer in the NFPA Industrial and Chemical Engineering Division where she serves as staff liaison to several technical committees and assists in the development of the Hazardous Materials Code. Prior to joining the NFPA staff, Laura attended Worcester Polytechnic Institute, where she received a Bachelor of Science degree in Chemical Engineering and is currently pursuing a Master of Science degree in Fire Protection Engineering.



The Center for Campus Fire Safety

978.961.0410

SupportTeam@campusfiresafety.org