

The following information was created in response to the overwhelming number of questions posed during the November 7, 2013 Globally Harmonized System (GHS) Webinar sponsored by Fisher Safety and Brady. We've organized responses into the following easy-to-use categories:

- General program information
- Employees
- Safety Data Sheets (SDS) or former MSDS
- Pictograms
- Labeling and Signage
- Chemical Inventory
- Containers
- Training
- Fisher Scientific Chemicals

General Information on Globally Harmonized System (GHS) and OSHA Hazard Communication Standard (HCS)

Employers need to be aware of the following deadlines as outlined by OSHA with regard to the Hazard Communication Standard updates. Keeping this information top of mind will help in a successful transition to the new GHS system.

| | |
|------|---|
| 2013 | December 1, 2013: Employee training of new GHS elements (chemical labeling and Safety Data Sheet [SDS] format) |
| 2015 | June 1, 2015: Chemical manufacturers reclassify chemicals, update chemical labels and provide SDS December 1, 2015: Chemical distributors ship products complete with updated labels and SDS |
| 2016 | June 1, 2016: Full GHS Compliance must be in place including hazard communication program and updated labeling within workplace |

Initial employee training on revised Hazard Communication Standard and GHS elements (including new chemical labeling and Safety Data Sheets format) should be completed by December 1, 2013. To lessen employee confusion and risk, it is extremely important that all employees be knowledgeable of the new SDS format and hazard warning information prior to receipt of new chemical inventory that could feature the new labeling. Implementing annual refresher trainings should be proactively considered until your workplace is in full compliance of the revised standard. See [Training](#) for additional detail.

Aside from the prescribed deadlines, employers should also:

- Understand regulation changes and updates and their impact to their workplace
- Review current chemical inventory (both primary and secondary containers) and ensure that it meets Hazard Communications Standard updates by 2016
- Contact chemical suppliers and determine their transition plans
- Watch for newly formatted Safety Data Sheets (SDS), and file accordingly

OSHA's Hazard Communication Standard is, of course, your first reference in understanding the requirements needed to meet the new updates. You can reference the standard via:

http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARD&p_id=10099 or bookmark our Reference page.

A digital version of the United Nation's *Globally Harmonized System of Classification and Labelling of Chemicals (GHS)*, Fourth Edition is available to download [here](#).

Employees: Who is impacted by GHS and HCS?

OSHA 1910.1200 standard covers any employee who has the potential for exposure to a hazardous chemical. This includes those employees directly handling chemicals on the factory floor, production environment, or lab, as well as office or support personnel who might walk through an environment with potential exposure to chemicals. Additionally, employers must also ensure that outside contractors are also aware of the chemicals used and stored onsite, i.e. hazards must be clearly identified and labeled.

It is important to note that employees working in a laboratories fall under OSHA's laboratory standard 1910.1450 *Occupational Exposure to Chemical Hazards in the Laboratory*. This standard is impacted by the Hazard Communication Standard 1910.1200. It would be best practice to follow the more stringent regulation.

Safety Data Sheets (SDS) or the former MSDS

New SDS Format - As of June 1, 2015, the Hazard Communication Standard (HCS) will require all new SDS to be in a uniform format. The new SDS features 16 sections of which sections numbered 12 through 15 are not included in the HCS final rule as they pertain to shipping and environmental information, but they will still appear in products coming from chemical manufacturers. The new format will include section numbers, headings, and associated information under the headings as shown below:

| Section | Headings | Information |
|---------|--|---|
| 1 | Identification | Includes product identifier; manufacturer or distributor name, address, phone number |
| 2 | Hazard(s) Identification | Includes all hazards regarding the chemical; required label elements |
| 3 | Composition/Information on Ingredients | Includes information on chemical ingredients; trade secret claims |
| 4 | First-Aid Measures | Includes important symptoms/ effects, acute, delayed; required treatment |
| 5 | Firefighting Measures | Includes suitable extinguishing techniques, equipment; chemical hazards from fire |
| 6 | Accidental Release Measures | Includes emergency procedures; protective equipment; proper methods of |
| 7 | Handling and Storage | Includes precautions for safe handling and storage; identifies incompatibilities |
| 8 | Exposure Controls/Personal Protection | Includes OSHA's Permissible Exposure Limits (PELs); Threshold Limit Values (TLVs); appropriate engineering controls; personal protective equipment (PPE). |
| 9 | Physical and Chemical Properties | Includes the chemical's characteristics |
| 10 | Stability and Reactivity | Includes chemical stability and possibility of hazardous reactions |
| 11 | Toxicological Information | Includes routes of exposure; related symptoms, acute and chronic effects; numerical measures of toxicity. |
| 12 | Ecological Information* | |
| 13 | Disposal Considerations* | |
| 14 | Transport Information* | |
| 15 | Regulatory Information* | |
| 16 | Other Information | Includes date of preparation or last revision |

**Note: Since other Agencies regulate this information, OSHA will not be enforcing Sections 12 through 15 (29 CFR 1910.1200(g)(2)).*

New SDS Availability – Chemical manufacturers are required to have their products re-classified by June 1, 2015. By this date, all chemicals should be shipped bearing the new GHS-formatted label and the newly-formatted SDS should be readily available. Many chemical manufacturers have already begun updating their chemical labeling and safety data sheets—check with your suppliers and manufacturers to determine availability. And, remember it is the employer's responsibility to obtain the updated SDS and make the information available to employees.

Timeline for SDS updates – Employers need to ensure that their chemical inventory and SDS are up to date, and that the most-up-to-date SDS versions are readily available for employees. Once you receive an updated SDS from your chemical manufacturer, you should make it available to your employees and archive the previous MSDS. And, please note: that labels have to be updated within 6 months of receipt of new SDS.

Hard-copy Format or Electronic SDS – The choice is clearly up to the employer as the regulation does not include any stipulations on whether one format is better than the other. However, remember the Safety Data Sheets are intended for employees to have up-to-date hazard information about the chemicals they are working around—at any time. The most reliable way of making sure that the SDS is always available is to have it kept in hard-copy format and available in your workplace. Many businesses or organizations opt for an electronic filing system; however, if you do keep your SDS electronically, and your power goes down, are the SDS still available to your employees? If you have a back-up power supply, then perhaps maintaining the SDS electronically is a viable choice. Ultimately, it comes down to making sure that the information is always readily available to employees.

Online MSDS databases – if you are currently accessing MSDS via a paid online database that houses the information for you, consult the company directly to understand their transition process to the new SDS format. Remember, employers are not only responsible for replacing the previous MSDS and providing the most-up-to-date information currently available to their employees, they are also responsible for archiving MSDS for minimum of 30 years.

Archive Period for MSDS– According to OSHA, employers need to keep and archive existing MSDS for a minimum of 30 years due to the chemical latency period (which latency is defined as the time between exposure to a pathogen, chemical, or radiation, and when symptoms first become apparent). Note: even though you may have removed or purged a specific chemical from your inventory, you still must retain the most currently available MSDS or SDS.

Formulating (Blending) Chemicals – If you are not a chemical manufacturer, but are formulating (blending) and shipping out chemicals, you are still required to supply a SDS for the mixture you are producing. To learn more about "mixtures", see Appendix A of 29 CFR1910.1200.

Pictograms

Printing Pictograms – Chemical manufacturers and chemical end users have multiple options for acquiring the new HCS pictograms: [1] purchase pre-printed labels; [2] purchase software that allows you to print your own; or [3] download the pictogram artwork from OSHA (<https://www.osha.gov/dsg/hazcom/pictograms/index.html>) and print your own. Note that whichever method you select, Appendix C, Section C.2.3.1 of 29 CFR 1910.1200 states that the pictograms shall be in the shape of a square set at a point and shall include a black hazard symbol on a white background with a red frame sufficiently wide to be clearly visible. A square red frame set at a point without a hazard symbol is not a pictogram and is not permitted on the label. Click here to see helpful products.

Chemicals With Multiple Pictograms – It is the chemical manufacturer’s responsibility to re-classify the chemical hazards per the GHS standard which has detailed information on classification and pictogram usage. Both employers and employees need to be able to identify the pictograms that the chemical manufacturer has defined in the SDS. And, in cases where multiple hazards are associated with the chemical, the most severe classification is depicted (determined by the manufacturer per GHS classification requirements).

Example: if a chemical were a skin irritant (depicted by the Exclamation mark pictogram) and fatally toxic (depicted by the Skull and Crossbones pictogram), the more severe hazard, Skull and Crossbones pictogram, would be displayed on the SDS.

Chemical Labeling and Signage

NFPA and HMIS Label and Signage – There has been no indication that the NFPA 704 or HMIS ratings will change as a result of OSHA’s update to the Hazard Communication Standard. It is anticipated that these rating systems will remain in effect as emergency first responders will continue to utilize these rating systems during emergencies. However, it is important to note that the severity ratings used by the NFPA/HMIS systems (“0” indicates a minimal hazard while “4” is considered severe) are inverse of the GHS. Under GHS, rating “5” equates to a minimal hazard while “1” is considered severe.

Keep in mind that the GHS hazard ratings are not typically shown on a label, and will only appear in the chemical’s Safety Data Sheet. Additionally, many chemical manufacturers are choosing to include the GHS classification, as well as the NFPA and HMIS on the Safety Data Sheet as OSHA has not mandated a specific requirement.

Alternate Labeling Systems for Secondary Containers – OSHA is not mandating that the GHS format be used on secondary containers and are allowing employers to choose the labeling system that they believe is best suited for their respective workplaces. The labeling must accomplish two things: identify the chemical; and address the hazards associated with it—however, this information must not be in conflict with the GHS classifications or hazard elements.

Vendor Supplied Secondary Labels – Vendors are not required to provide secondary labeling. As an employer, you can create your own onsite labels via a number of methods. See the “Products” tab within this resource.

Re-Labeling Existing Chemical Inventories – Employers are not mandated to re-label chemicals that were shipped from a manufacturer with a different label standard, unless that original label has been defaced, worn off, or has become illegible. If the new classifications for the chemical differ significantly than what is displayed, the employer is responsible for making sure employees are aware of this. It would be best practice to re-label your chemical inventory as you’re preparing for implementation.

New or Replacement Labels – Label creation is based on the chemical’s specific information contained in its Safety Data Sheet. Because of the complex information required for GHS formatted labels, employers will need to be able to create and print labels onsite.

Language Selection for Labels – The HCS standard indicates that labels used in the workplace should be legible and in English. However, the standard further states, that if there are non-English-speaking employees, the label information can be translated and displayed in other languages—as long as it is still maintained in English. Overall, the goal of the standard is to ensure that all employees understand the hazards of the chemicals that they are working around. It would be best practice to make sure all hazard information is available in all languages spoken in the workplace. Additional detail on this can be found in the following two sections: 1910.1200(f)(10) and 1910.1200(g)(2).

Chemical Inventory

HazCom Written Plan - Your chemical inventory is a critical component of your written HazCom plan and it should include all onsite chemicals that an employee could potentially come in contact with. The plan [(per OSHA 1910.1200(e)(1)(i))] should include how you are managing the chemical inventory—including the protocols that you are using to ensure that all hazard information is updated and readily available. Remember, it is the employer’s responsibility to make sure that every onsite chemical has a corresponding SDS and the employees have ready access to this information.

Removing a Chemical From Inventory (or Purging) – Should a chemical need to be removed or purged from your facility (either removing it entirely from your worksite, or removal from a tank or process line), your written plan needs to address the protocol used for purging. This is very important information, as it is needed to satisfy OSHA and EPA compliance standards. Also, you must be mindful, that even though you removing or purging a chemical from your inventory, you must retain the MSDS. See [Archive Period for MSDS](#) for more detail.

Diluted Chemicals and Ratings – If chemicals in your inventory have been diluted with water, you will need to consult the chemical manufacturer for specific information on how the ratings may change based on the specific chemical and dilution techniques that were used.

Additionally, it is our understanding that if you separate your MSDS via “shipped state” and “use state” for full strength chemicals that you receive, and then dilute-- this procedure will continue under the new GHS system.

Chemicals in Limited Quantities – Varying chemical container sizes—large or small—require the appropriate information to appear. The GHS standard has some information pertaining to limited quantities of chemicals; however, the OSHA regulation did not incorporate this information into its final ruling. It is our understanding that the chemical will still need to be identified—regardless of the quantity.

Containers

Secondary Containers – Under the new standard, OSHA is not mandating that the GHS format be used on secondary container labels; they are allowing employers to choose the labeling system that they believe is best suited for their respective workplaces. The labeling needs to identify the chemical and address the hazards associated with it—while not conflicting with any of the GHS classifications or hazard elements. NFPA and HMIS labeling can still be used for secondary containers—if the information shown does not conflict with GHS statements.

Portable Containers, Transfer and/or Squeeze Bottles – OSHA states in 1910.1200(f)(8), that employers are not required to label portable containers that are used to transfer chemicals from labeled containers—if they are intended only for immediate use and are in sole control of the employee who is performing the transfer.

Training and Training Providers

Training - Your workplace should already be conducting Hazard Communication Standard (HCS) training per OSHA requirements. However, with the new HCS update, you will also need to incorporate the following elements into your initial training so that employees fully understand:

- The new Hazard Communication Standard
- The new Safety Data Sheet
- The new Label format (pictograms, signal words, hazard and precautionary statements)
- The relationship between the SDS and chemical label
- The general health information and hazards in the workplace

As you know, OSHA is mandating that initial training on the new Hazard Communication Standard take place by December 1, 2013. Aside from this training, section 1910.1200(h)(1) of OSHA standard, indicates training must occur at the time of initial assignment (new hires) and when new chemicals are introduced into an employee’s work area. Annual training is a best practice to ensure that employees are kept up to date on identifying chemical hazards and understanding the hazards that they work around daily.

Training Providers – OSHA does not have a specific requirement that addresses trainer qualification. The decision on who is most qualified to conduct training is at the employer’s discretion.

Online Training Solutions – Check with your local authority for the most up-to-date information regarding the use of online training for your employees. Some states do not permit online training. Federal OSHA does not have any stipulations or provisions on training method—only that proof of training or documentation of training is required.

Training in English Versus Other Languages – The OSHA standard states that workplace labels should be legible and in English; it further states that if the employer has employees speaking other languages, that hazard information can be translated and displayed in these other languages—as long as it is also maintained in English. Essentially, it is necessary that all employees understand the hazards associated with the chemicals that they work with or around. It is best practice to make sure that all hazard information and communication—including training—be available in all languages spoken in the workplace. Specific verbiage on this subject can be found in these two sections of the standard: 1910.1200(f)(10) and 1910.1200(g)(2).

Fisher Scientific Chemicals

As a manufacturer and global distributor of chemicals, Fisher Scientific will follow OSHA’s prescribed deadlines for compliance with regard to labeling chemical products and providing SDS to our customers.