



## The Global Harmonized System Of Safety

By Pete Engelbert

**W**e have finally mastered HazCom, so they decided to change it. Welcome to the Global Harmonized System.

In 1983, the Occupational Safety and Health Administration (OSHA) released its Hazard Communication (HazCom) regulation, which required Material Safety Data Sheets (MSDS). It took all this time to get acceptance of reviewing the MSDS as a part of every job. We are better for it. However, in the ever-changing economy, globally, there is a great need to have a comprehensive, universal approach to passing on the hazardous properties of the chemicals we use. To accomplish this task, OSHA has modified our now-familiar HazCom regulation to the Global Harmonized System (GHS).

The GHS provides a uniform system adopted by the United Nations (UN) several years ago. Often the question with internationally based schemes of standardization is: Are we settling for something less than we had? In this case, the answer is no. The modifications OSHA has made to the HazCom regulation, while in line with the GHS, include some changes. However, these new changes will still allow the level of detailed information we have relied upon to keep us informed and safe for over two decades.

We will have to get used to these changes. As always, the chemical manufacturers must take a good look at their products, now called “substances.” Previously, they had to follow certain criteria for what information they had to list. The criteria have tightened up a bit. The manufacturer must now classify the substances accord-



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ing to hazard classes, similar to the Department of Transportation’s hazard classes (based on UN regulations for Dangerous Goods). These classes are listed in this article. Please take a look at the pictograms and signal words. These are designed for instant recognition to trained employees. This is new

for MSDS (or as they are now known, Substance Data Sheets, {SDS}).

The SDS will have a new look, too. In the past, when looking at a MSDS, we had to go hunting for information. Now the sections are standardized and must be in a set order. For many employees in construction trades, this will not

## OSHA'S NEW "STRUCK-BY" CAMPAIGN

OSHA has launched a regional outreach initiative in Missouri, Iowa, Kansas, and Nebraska about the need to prevent "struck-by" vehicle accidents in the workplace. "Struck-by" injuries and fatalities are caused by conventional traffic/passenger vehicles, forklifts, cranes, and other moving powered industrial equipment. Causes typically involve reverse vehicle movement into a pedestrian outside the driver's field of vision or vehicles falling off ramps, inclines, or unstable ground.

OSHA has developed educational materials called "Evaluate Your Entire Surroundings," or E.Y.E.S., which are available in both English and Spanish. The materials include a one-page fact sheet with accident data and prevention strategies; "OSHA Region 7 Informational Guide for Preventing Struck-by Accidents," a brochure that covers risk assessment steps, common operator errors, and safety tips; and a laminated poster. For more information, visit: OSHA, [www.osha.gov](http://www.osha.gov).

## WORKING IN PERMIT-REQUIRED CONFINED SPACES

A confined space is defined as a space with limited openings for entry or exit; it is large enough for entering and working; and it is not designed for continuous worker occupancy. Confined spaces include underground vaults, tanks, storage bins, manholes, pits, silos, underground utility vaults, and pipelines. OSHA defines permit-required confined spaces as confined spaces that:

- May contain a hazardous or potentially hazardous atmosphere;
- May contain a material that can engulf an entrant;
- May contain walls that converge inward or floors that slope downward and taper into a smaller area, which could trap or asphyxiate an entrant;
- May contain other serious physical hazards, such as unguarded machines or exposed live wires;
- Must be identified by the employer, who must inform exposed employees of the existence and location of such spaces and their hazards.

What To Do When Working In A Permit-Required Confined Space:

- Do not enter permit-required confined spaces without being trained and without having a permit to enter.
- Review, understand, and follow the employer's procedures before entering permit-required confined spaces and know how and when to exit.
- Before entry, identify any physical hazards.
- Before and during entry, test and monitor for oxygen content, flammability, toxicity, or explosive hazards as necessary.
- Use employer's fall protection, rescue, air-monitoring, ventilation, lighting, and communication equipment according to entry procedures.
- Maintain contact at all times with a trained attendant either visually, via phone, or by two-way radio. This monitoring system enables the attendant and entry supervisor to order you to evacuate and to alert appropriately trained rescue personnel to rescue entrants when needed.

For more information about permit-required confined spaces, visit: OSHA, (800) 321-6742, [www.osha.gov](http://www.osha.gov).

## IS YOUR SAFETY INCENTIVE PROGRAM AN OSHA VIOLATION?

Richard Fairfax, deputy assistant secretary for OSHA, has issued a memo outlining how disciplining an employee for reporting an injury can violate whistleblower laws and record-keeping rules. Specifically, Section 11(c) of the OSH Act prohibits employers from discriminating against an employee for reporting an injury or illness. When an employee feels intimidated by managers who discourage reporting, safety for the entire workforce is at risk, the memo explains. Employers don't have the information they need to improve safety conditions, and workers don't receive the proper medical care and workers' compensation benefits. OSHA's memo cites common policies that discourage injury reporting.

- Programs that tie manager bonuses to reduced injury rates.
- Safety programs requiring disciplinary action against injured employees are a violation of federal laws and contradict the employer's obligation to establish methods for reporting injuries.
- Disciplining an employee or eliminating a reward for reporting/not reporting an injury by established methods may be a violation.
- Enforcing a rule more stringently for an injured employee than for workers who were engaged in the same activity but weren't injured may point to discrimination.
- Safety incentive programs may discourage employees from reporting injuries, whether the employer intends to do that or not.

In general, safety incentive programs could be called into question if they discourage employees from reporting an injury because the rest of the team would not receive an incentive. According to Fairfax, employers should also evaluate if the incentive is so desirable that it deters proper reporting of injuries and illnesses. For more information or to view the OSHA memo, visit: <http://www.osha.gov/as/opa/whistleblowermemo.html>.

## NEW RULES FOR CHEMICAL LABELING

OSHA has revised its Hazard Communication Standard, aligning it with the United Nations' global chemical labeling system. The revisions to the Hazard Communication Standard will be fully implemented in 2016 and will benefit workers by reducing confusion about chemical hazards in the workplace, by facilitating safety training, and by improving understanding of hazards, especially for low literacy workers. OSHA's standard will classify chemicals according to their health and physical hazards and will establish consistent labels and safety data sheets for all chemicals made in the United States and imported from abroad. During the transition period to the effective completion dates noted in the standard, chemical manufacturers, importers, distributors, and employers may comply with either 29 Code of Federal Regulations 1910.1200 (the final standard), the current standard, or both. The final rule revising the standard is available at <http://s.dol.gov/P1>. Further information for workers, employers, and users of hazardous chemicals can be reviewed at OSHA's Hazard Communication Safety and Health topics at <http://www.osha.gov/dsg/hazcom/index.html>.

## Hazard Communication Standard Pictogram

As of June 1, 2015, the Hazard Communication Standard (HCS) will require pictograms on labels to alert users of the chemical hazards to which they may be exposed. Each pictogram consists of a symbol on a white background framed within a red border and represents a distinct hazard(s). The pictogram on the label is determined by the chemical hazard classification.

### HCS Pictograms and Hazards

<p><b>Health Hazard</b></p>  <ul style="list-style-type: none"> <li>• Carcinogen</li> <li>• Mutagenicity</li> <li>• Reproductive Toxicity</li> <li>• Respiratory Sensitizer</li> <li>• Target Organ Toxicity</li> <li>• Aspiration Toxicity</li> </ul>	<p><b>Flame</b></p>  <ul style="list-style-type: none"> <li>• Flammables</li> <li>• Pyrophorics</li> <li>• Self-Heating</li> <li>• Emits Flammable Gas</li> <li>• Self-Reactives</li> <li>• Organic Peroxides</li> </ul>	<p><b>Exclamation Mark</b></p>  <ul style="list-style-type: none"> <li>• Irritant (skin and eye)</li> <li>• Skin Sensitizer</li> <li>• Acute Toxicity (harmful)</li> <li>• Narcotic Effects</li> <li>• Respiratory Tract Irritant</li> <li>• Hazardous to Ozone Layer (Non-Mandatory)</li> </ul>
<p><b>Gas Cylinder</b></p>  <ul style="list-style-type: none"> <li>• Gases Under Pressure</li> </ul>	<p><b>Corrosion</b></p>  <ul style="list-style-type: none"> <li>• Skin Corrosion/ Burns</li> <li>• Eye Damage</li> <li>• Corrosive to Metals</li> </ul>	<p><b>Exploding Bomb</b></p>  <ul style="list-style-type: none"> <li>• Explosives</li> <li>• Self-Reactives</li> <li>• Organic Peroxides</li> </ul>
<p><b>Flame Over Circle</b></p>  <ul style="list-style-type: none"> <li>• Oxidizers</li> </ul>	<p><b>Environment (Non-Mandatory)</b></p>  <ul style="list-style-type: none"> <li>• Aquatic Toxicity</li> </ul>	<p><b>Skull and Crossbones</b></p>  <ul style="list-style-type: none"> <li>• Acute Toxicity (fatal or toxic)</li> </ul>

For more information:

**OSHA<sup>®</sup> Occupational Safety and Health Administration**  
 U.S. Department of Labor  
[www.osha.gov](http://www.osha.gov) (800) 321-OSHA (6742)

mean much of a change. For the painting world, this is a big deal and for the better! Many paint manufacturers have used their own organization in booklets regarding the information they must provide to end users. For example, some have generic sections on hazards common to many paint components, such as industrial solvents including toluene and xylene that target certain organs: the central nervous system, liver, and kidneys. Manufacturers often group these common properties and, for each paint system, simply refer users to a table with that generic information. This can get confusing, especially for field personnel who prefer a simple, straight-forward list to read.

The new SDS will have information on first aid measures of exposure to a chemical under the same section. Regardless of the manufacturer, product, or country, first aid will always be found under Section 4. This will greatly simplify finding the necessary information, especially in an emergency. In the future, for every section where no information is applicable or available, it must state it. Any portion that is claimed as a trade secret must also be listed with its percentage of the whole. In the past, this information was allowed to be omitted. The new sections and their order are listed below:

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

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Another feature of the SDSs will be mixture information. In the coatings industry, we have had a MSDS for each part of two-part component systems for a long while. However, we did not have a MSDS for the mixed product. Now that information will be found as well. The manufacturer must provide any data it has on the mixed material by either direct testing or by “bridging.” Bridging is calculating the effects of a substance based on the properties of each component.

The requirement that the SDS be printed in English has remained the same. OSHA has pushed for all safety-related material to be presented in whatever manner or language is needed for worker protection. The GHS is less concerned with any specific language and more concerned that employees are protected from the hazards of their work. Nonetheless, the new revision does require the availability of SDS in the English language.

OSHA has also required the continuation of label integrity. Whatever labeling the manufacturer has placed on its product, the end user’s employer must ensure the labeling remains intact and is replaced if necessary.

### Training

The big question that has employers abuzz: Is training required and by when? The answers are dependent on who the employer is. First, what the training must include.

The minimum training must include a disclosure of what methods and observations will be used to detect exposures in the workplace. The hazard classification of the chemi-

cal along with the physical, health, and other hazards must be noted. The select protection schemes must also be given—these include procedures, work practices, emergency procedures, and personal protective equipment (PPE). Details of the employer’s HazCom program must also be addressed in the training. All of this is similar to the present requirements for training.

Deadlines for completing this training are as follows:

- End user’s employees must be trained by December 1, 2013.
- Manufacturers, importers, distributors, and their employees must be trained by June 1, 2015.
- No products can ship after December 1, 2015, unless they comply with the new labeling regulations.

This time table may seem odd to some — especially the fact that end users must be trained before manufacturers are required to be trained. OSHA understands what a monumental task retraining existing employees will be, as well as the reclassification system requirements. It anticipates a transition period during which the older labeling system and MSDS will continue on already-produced products. During this transition, either or both systems may be used. Thus, end users must be trained first so they can be aware of each labeling system that might be delivered from different vendors.

Care must be taken in training under this new system. While all the information we have become accustomed to will still be there, a higher level of sophistication is inherent in the new system. Employees are expected to know

the terminology used. For example, a new list of physical hazards may include pyrophoric substances. These are not new substances, but ones with an unfamiliar term. Pyrophoric substances are substances that ignite on exposure to air. That is it — just air. Previously, an MSDS might have listed them as flammable and included precautions. Under the new system, they must be listed as “pyrophoric” and described as a liquid or a solid.

The GHS also introduces a European concept in hazard recognition: sensitizers. Sensitizers are those chemicals that cause a lasting effect on tissue, making users even more susceptible or “sensitized” to the chemical on the next exposure. Painters are not new to this concept. In the future, any chemical components that are capable of sensitizing the skin or respiratory tract must be labeled as present. Previously, such chemicals were labeled as “irritants.”

This means that employees must also be trained as to what the terms mean and how they apply to them and their work.

This is an important concept under any training requirements of OSHA. Generic training is not enough. Employees must be trained to the specific hazards that an employer will expose them to or may be exposed to in that workplace. This is a far higher burden than sending an employee to a class. Further, the training must include exactly how the employees will be protected by the employer’s procedures and/or protective equipment.

While the look and name of MSDS will change, the same information will be there. Perhaps, even a chance to raise the bar on our training and understanding of specific hazards. For further information, see [osha.gov](http://www.osha.gov/dsg/hazcom/index.html) at: <http://www.osha.gov/dsg/hazcom/index.html>. Information regarding specific requirements and how they pertain to your area can be found by calling the area offices listed on this Web page: <http://www.osha.gov/html/RAmap.html>. The new Hazard Communication regulation is a big change. You must literally get with the safety program. **CP**