

Compliance Matters

Significant Changes to Labels and Material Safety Data Sheets



By Bob Yeoman, B&R Compliance

An initiative to globally harmonize the labeling of chemical hazard classifications and hazard communication information is quietly ushering in significant changes to Labels and Material Safety Data Sheets in the gas industry. While many readers may not have heard of this initiative to date, it has its roots in the 1992 UN Environmental Development Conference in Rio de

Janeiro, Brazil. Known as GHS, which is an acronym for *The Globally Harmonized System of Classification and Labeling of Chemicals*, this initiative has been developed as a logical and comprehensive approach to standardizing and globally harmonizing the classification and labeling of chemicals and hazardous materials in a world where these products are traded in international markets.

In the US today, the regulatory agencies with authority over the workplace (Occupational Safety & Health Administration — OSHA), the environment (Environmental Protection Agency — EPA), the consumer (Consumer Product Safety Commission — CPSC), and transportation (Department of Transportation — DOT) have not harmonized their definitions of hazards and labeling and classification requirements for hazardous materials. Key selling points for the implementation of GHS include improved worker safety and improved/more consistent information on chemical hazards and protective measures. Another GHS benefit being touted is its ability to lessen the regulatory burden. However, it appears this benefit will accrue mostly to the regulatory agencies themselves through harmonization of their activities, not the employers who have to implement the new initiative.

GHS is a voluntary international system and covers all hazardous chemicals. The term “chemical” is used broadly to include substances, products, mixtures, preparations, or other terms used in existing hazard classification systems. Industrial and medical gases fall under this definition of chemicals. While GHS imposes no binding treaty obligations on countries, the US is moving forward with these standards. To minimize overlapping and duplication/confliction of requirements here at home, GHS will be adopted inside the framework of our existing hazard communication regulatory schemes. This means that OSHA, EPA, CPSC, and DOT are all in the process of evolving towards the GHS system regulatory requirements that are applicable to hazard communication and labeling.

Under GHS the labels applied to gas containers in the US will become globalized in terms of what information is contained on the label and how that label information is presented. In addition to containing product and supplier identification information, labels will also contain standardized hazard statements and precautionary information. It appears this information should generally

GHS Pictograms and Hazard Classes

<p>Pic 1803</p>  <p>Oxidizers</p>	<p>Pic 1802</p>  <p>Flammables Self Reactives Pyrophorics Self-Heating Emits Flammable Gas Organic Peroxides</p>	<p>Pic 1801</p>  <p>Explosives Self Reactives Organic Peroxides</p>
<p>Pic 1809</p>  <p>Acute Toxicity (severe)</p>	<p>Pic 1808</p>  <p>Corrosives</p>	<p>Pic 1804</p>  <p>Gases Under Pressure</p>
<p>Pic 1807</p>  <p>Carcinogen Respiratory Sensitizer Reproductive Toxicity Mutagenicity Aspiration Toxicity</p>	<p>Pic 1806</p>  <p>Environmental Toxicity</p>	<p>Pic 1805</p>  <p>Irritant Dermal Sensitizer Acute Toxicity (harmful) Narcotic effects Respiratory Tract Irritation</p>

remain consistent with what is currently required for labels. GHS compliant labels will also be required to contain Signal Words and Symbols/Hazard Pictograms. There will be two kinds of pictograms on labels under GHS. The transport pictograms used today, which use different colors to denote classes of hazards, will generally remain.

GHS will introduce a second set of pictograms called supply symbols. These will be black symbols on a white background with a red frame (see illustration). There are currently nine GHS supply pictograms proposed. Gases with multiple hazards will be required to have multiple transport and supply pictograms on their label. OSHA is proposing to use a system of tiers for signal words on labels. Their studies have shown that workers perceive a clear difference in the level of hazard between the words "Danger" and "Warning," but perceive little difference between "Warning" and "Caution." Under GHS, signal word tiers will be designed to enhance how people perceive the hazards these signal words are intended to convey.

There are numerous examples of GHS compliant labeling formats and these can be viewed on the web (www.osha.gov/dsg/

www.osha.gov/dsg/hazcom/ghs.html). These exemplar label formats are all considerably larger and take up more container real estate than the ubiquitous shoulder label commonly applied to high-pressure cylinders in the US. We can foresee where GHS labeling format requirements may provide an impetus toward a wider use of body style labels in the gases industry. Typical industry preference is currently biased towards shoulder labels, especially for large cylinders. This style label can be easily seen even when large cylinders are nested into groups. This is an important safety consideration, especially for an industry that stresses reading the label as the primary means of identifying cylinder contents. Shoulder labels on large cylinders are also considerably less prone to damage from cylinder handling than body labels. Label designers will clearly face challenges in incorporating GHS requirements into today's most popular high-pressure cylinder label formats.

Material Safety Data Sheets (MSDS) are another area of hazard communication that will undergo changes as the US transitions to GHS. To begin with, they will now be called simply Safety Data Sheets (SDS). There are 15 items considered to be minimum informa-

tion for an SDS, most of which, in one form or another, are part of current MSDS. Having been involved in developing and reviewing MSDS for most of my career I can attest that there is often a wide variance in the quantity and quality of the information provided by different companies in their MSDS today. GHS will provide a framework that should make the information in SDS more consistent between different companies, as well as globally consistent for materials that move internationally. GHS does not specify a particular layout format for SDS, so companies will have a free hand in how their Safety Data Sheets are organized and formatted.

Container labels and Safety Data Sheets comprise two of the three core elements of a comprehensive hazard communication program. Employee training is the third core element. The recent OSHA regulatory proposal includes a requirement intended to ensure that labels and SDSs are adequately explained to employees; this includes training in the new standardized labeling and pictograms. Some readers may remember the HM-126 F requirement that was implemented in the early 90s. HM-126 F had associated special training campaigns that most

companies used to meet that requirement. Given the amount of new and changed information involved in GHS, it is likely that a similar training campaign will be required to implement GHS.

New Zealand did a phased in adoption of GHS starting in 2001, with full implementation at the end of 2009. The European Union (EU) has already adopted GHS into the new EU Labeling and Packaging regulations, which went into effect January 20, 2009. The EU regulations include a two-year transition period for existing products. In Canada, regulatory proposals to update the WHIMIS standards are expected in 2010. In the US there is no uniform implementation date for GHS. DOT is currently working towards having their regulations migrated to GHS by 2012. OSHA released a notice of proposed rule-making in September 2009. There is a rumor that, based on the comments received, OSHA may release a second proposed regulation before they publish a final rule. I think it is a real possibility that we could see a final OSHA rule in 2010 or early 2011 as employee safety issues now have a much higher priority under the Obama administration. OSHA's current regulatory proposal

includes a two-year transition period for training, and a three-year period for full implementation.

The gases industry, through the Compressed Gas Association (CGA) has come out in support of the transition to GHS requirements, and while CGA acknowledged there could be a disproportionately larger impact on smaller entities, they are not supporting any alternative systems for smaller gas companies. In the past, other regulatory initiatives that have involved labeling requirement changes contained a provision that any container of gas filled before a specific cutoff date would be grandfathered, and permitted to be shipped with (in this case) non-GHS compliant labeling. Grandfathered containers could not be refilled after the cutoff date. This is a very rational way to treat the millions of high-pressure cylinders in circulation that will all require new labels. We have seen comments submitted by other industry associations, such as the National Association of Chemical Distributors, requesting OSHA provide an additional 18 months after the three-year implementation period. Given that most of the world's major geographies are ahead of the US in GHS implementation and appear to have success-

fully used the 2–3 year implementation period, it is our expectation that OSHA will stick with their current proposals for phase-in timelines. CGA has already started the revision process for their publications related to labeling and MSDS to incorporate GHS requirements as they pertain to the compressed gas industry. It appears the gases industry should be well prepared to make the transition to GHS when the time comes.

All of this means that every welding and gas distributor, and all the major gas companies, will have to make the transition to GHS compliant labels and MSDS in their near future. As OSHA finalizes their requirements, the transition process will start to gain momentum. As that process moves forward we will be providing updates and additional information in this column. Stay tuned.

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