

EFCOG Best Practice #168

Best Practice Title: Best Practice for GHS Secondary Container Hazard Labeling

Facility: Hanford Site, Richland Washington

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Brief Description of Best Practice: The United Nations proposed the Globally Harmonized System of Classification and Labeling of Chemicals (GHS) in 1992. In March 2012, OSHA revised the Hazard Communication Standard (HCS) *29CFR-1910-1200* to align with the new GHS system. The U.S. Department of Energy's "*Worker Safety and Health Program*" in section 10 CFR 851.23 incorporates the OSHA general industry standards by reference, making the revised HCS a requirement for DOE contractors.

The revised hazard communication standard requires chemical manufacturers to evaluate the chemicals they produce and provide hazard information to employers and workers by properly labelling their product and supplying their Safety Data Sheets (SDS) in a specified format. The modified OSHA HCS provides a single set of harmonized criteria for classifying chemical products according to their health effects and physical properties. It also specifies hazard communication elements for labeling (including workplace/secondary labels) and SDS content.

The GHS-HCS defines the label elements that must be on the primary (manufacturer's) container. However, the GHS-HCS only established a general guideline for labeling the secondary (site repackaged) container. This guideline requires employers to use words, pictures, symbols, and other information to inform their employees on the physical and health hazards of the hazardous chemical.

On the Hanford site, a new secondary label format has been developed based on the elements of the GHS-HCS compliant manufacturer's label. The new secondary container hazard label also retains some of the familiar features from the current NFPA 704 Hanford Hazard secondary label. The secondary container hazard label includes the following information: product name, manufacturer name, pictogram(s), signal word, hazard statement(s), and the Hanford designated SDS number. Any transferring of information directly from the manufacturer label to the secondary hazard label can be done by any trained/authorized employee. In the event that the information cannot be captured from the primary container label, it is then recommended that the Industrial Hygienist (IH) be consulted to transfer information from the SDS to the new secondary label.

NOTE: The secondary container hazard label will not contain the NFPA 704 Hazard Class Categories since the GHS-HCS standard does not require these categories on the primary container hazard label provided by the manufacturers.

Why the best practice was used: Currently the GHS-HCS identifies the minimum information elements, but does not prescribe a format for secondary container hazard labels. The Hanford site is currently comprised of over five hundred square miles under the jurisdiction of two organizations, the Department of Energy (DOE) field offices; "Richland Operations" (RL) and the "Office of River Protection" (ORP). Multiple contractors manage a wide variety of activities performed on site. The activities performed by various contractors are commonly collocated; resulting in chemical products used by different contractors being used and stored in a relatively close proximity. Establishing a common secondary container hazard label format among all contractors promotes a consistent application and understanding of hazard information represented on the label.

Using the new secondary container hazard label will also aid the transition into the new standard implementation. The secondary hazard label will be used under the following circumstances:

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1. When transferring a portion of the product to another secondary container (and not immediately used),
2. Replacing damaged labels, and
3. When an existing, non GHS, primary container hazard label does not meet the OSHA secondary labeling guidelines as mentioned above.

What are the benefits of the best practice:

- Readily recognizable format and label content,
- Consistent approach to training,
- Standard labeling of collocated containers,
- If the primary means of information is missing then there is a secondary way of obtaining this information.

NOTE: All elements of the secondary container hazard label can be found on the manufacturer's label. Under the new OSHA standard, the manufacturer is required to send the purchaser a copy of the SDS. In the event that the manufacturer's label (primary label) on the container is unreadable or damaged during shipment, then the information of the new secondary hazard label can be obtained from SDS.

What problems/issues were associated with the best practice:

Applying the new design for the secondary container hazard label is not established in the various contractor's contracts. Acceptance of this format is therefore managed by consensus and is not enforceable. Obtaining the primary container hazard label and the manufacturer's safety data sheet will be essential since this is how information for the secondary container hazard label is obtained. The timing related to transitioning to the new secondary container hazard label may be challenging. Replacing the labels through the attrition of existing containers could result in many instances of the old format and the new format in the workplace at the same time.

One concern during the development of the new GHS Secondary Container Hazard Label was moving from the NFPA 704 numbers to identify the hazard severity to the use of pictograms and signal words to identify the hazard severity of the product. It was determined that the use of the current format was clear and easy to identify and interpret the hazards of the chemical according to the new GHS guidelines.



How the success of the Best Practice is measured: The effectiveness of the new secondary container hazard label will be measured by polling different areas of the workforce such as: workers, managers, etc. Success of the label will also be measured by the number of labels the Hanford Sign Shop produces as they are accepting orders from all DOE contractors.



Description of process experience using the Best Practice: Previously on the Hanford site, a similar standard format based on the NFPA 704 hazard rating was used for the design of the secondary container hazard label. The previous/current secondary container hazard label was effective across the Hanford site because the contractors readily accepted it.

Examples of the new Labels: Below are two secondary container hazard labels for two products used in the field. Warning Signal Words contains black lettering with orange background, and Danger Signal Words contains white lettering with Red background. Health and Physical Hazards are listed in their own rows with pictograms and hazard statements.

These labels were prepared by Hanford Sign Shop and printed on laminated surfaces that withstand workplace and environmental conditions. Other DOE sites, see blank label examples, may make arrangements for purchase or producing labels by contacting their DOE Procurement department. A Department of Energy Inter Entity Work Order (IEWO/IWO), as detailed by Chapter 12 of the DOE Accounting Handbook, will need to be prepared by the requesting site and sent to the DOE- Richland Operations Office to initiate a MSA Request for Services for the labels.

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Hanford Hazard Label		
Product Name:	Sight Savers Brand Anti-Fog Liquid	
Manufacturer:	Bausch Lomb	
GHS-SDS#:	072865	
SIGNAL WORD	WARNING	
HEALTH	PICTOGRAMS	HAZARD STATEMENTS:
		Causes serious eye irritation.
PHYSICAL		Flammable liquid and vapor.
	200E Sign Shop 373-5682 Reorder No. 2E1303245.7A	

Hanford Hazard Label		
Product Name:	WELD-ON 750 HOTWELD LOW VOC CEMENT FOR PVC PLASTIC PIPE	
Manufacturer:	IPS	
GHS-SDS#:	070299	
SIGNAL WORD	DANGER	
HEALTH	PICTOGRAMS	HAZARD STATEMENTS:
		Causes serious skin irritation. May cause Respiratory irritation. May cause Drowsiness or Dizziness
PHYSICAL		Highly Flammable liquid and vapor.
	200E Sign Shop 373-5682 Reorder No. 2E1303247	

Pictograms

used on labels:



DOE Site Hazard Label		
Product Name:		
Manufacturer:		
GHS-SDS#:		
SIGNAL WORD	DANGER	
HEALTH	PICTOGRAMS	HAZARD STATEMENTS:
PHYSICAL		
	200E Sign Shop 373-5682 Reorder No. 2E1303249.1A	

DOE Site Hazard Label		
Product Name:		
Manufacturer:		
GHS-SDS#:		
SIGNAL WORD	WARNING	
HEALTH	PICTOGRAMS	HAZARD STATEMENTS:
PHYSICAL		
	200E Sign Shop 373-5682 Reorder No. 2E1303247.1A	