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## HazCom 2012

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## **HazCom 2012**



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## **Overview**

- Review of changes to the OSHA Standard (HazCom 2012)
- How will this change MSDSs (SDSs) and labels?
- How will this change your training?
- How will this change your HazCom program?
- When do I have to be in compliance?

## **Hazard Communication**

- Hazard Communication Standard promulgated in 1983 for manufacturing only
  - 29 CFR 1910.1200
  - Also know as "Right to Know Law" or HAZCOM
  - Prevention of injuries and illnesses from chemical exposure
  - Provide knowledge of hazards to employees
  - Most cited OSHA standard for many years
- 1987 expanded to all industries
- Minor changes in 1989 and 1994
- 2012 Global Harmonization System (GHS) requirements added

## **Hazard Communication**

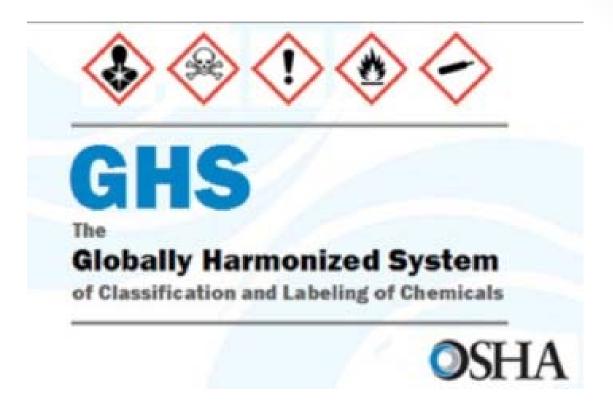
- Employees have a right to know about the health hazards and physical hazards present on the job, and what precautions to take to prevent exposure.
- Requirements:
  - Written Program
  - Lists of Chemicals
  - Labeling
    - Manufacturer's Label
    - Workplace Labeling
  - Material Safety Data Sheets (now SDSs)
  - Employee Training

# **Does Not Apply To**

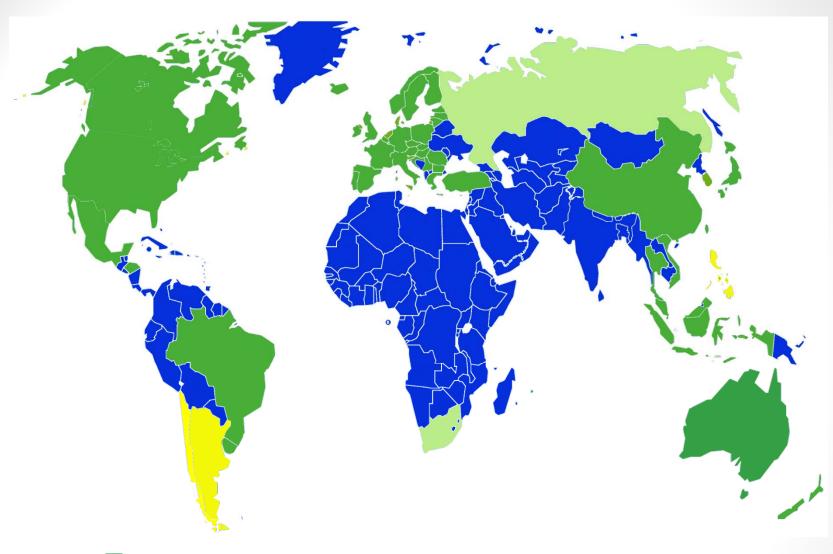
- Hazardous waste
- Tobacco
- Wood products that are not hazardous
- Articles
- Food or alcohol
- Drugs
- Cosmetics
- Consumer products
- Nuisance particles
- Ionizing and non-ionizing radiation
- Biological hazards

# Does Not Require Labeling of:

- Any <u>pesticide</u> as such term is defined in the Federal Insecticide, Fungicide, and Rodenticide Act when subject to the labeling requirements of that Act and regulations issued by the Environmental Protection Agency;
- Any chemical substance or mixture as such terms are defined in the Toxic Substances
   Control when subject to the labeling requirements of that Act and regulations issued by
   the Environmental Protection Agency;
- Any food, food additive, color additive, drug, cosmetic, or medical or veterinary device or product, as such terms are defined in the Federal Food, Drug, and Cosmetic Act or the Virus-Serum-Toxin Act when they are subject to the labeling requirements under those Acts by either the Food and Drug Administration or the Department of Agriculture;
- Any distilled spirits, wine, or malt beverage intended for nonindustrial use, as such terms are defined in the Federal Alcohol Administration Act when subject to the labeling requirements of that Act and regulations issued by the Bureau of Alcohol, Tobacco, Firearms and Explosives;
- Any consumer product or hazardous substance as those terms are defined in the Consumer Product Safety Act and Federal Hazardous Substances Act respectively, when subject to a consumer product safety standard or labeling requirement of those Acts;
- Agricultural or vegetable seed treated with pesticides and labeled in accordance with the Federal Seed Act and the regulations issued under that Act by the Department of Agriculture.



- GHS refers to the United Nations (UN) Globally Harmonized System of Classification and Labeling of Chemicals
- "Harmonize" the classification and the hazard communication elements of chemicals (labeling and safety data sheets)



- Countries/regions that have already implemented GHS.
- Countries/regions where GHS is voluntary
- Countries/regions that are in the process of implementing GHS
- Countries/regions where GHS is not implemented or not available.

# OSHA's Approach

- Maintain the basic requirements of the current HazCom standard
  - Only change those provisions that need to be changed to adopt the GHS
  - "Right to Know" becomes the "Right to Understand"
- Maintain or enhance the level of protection provided by the HazCom standard
- Cost savings for companies doing business worldwide or using imported chemicals

## **HazCom 2012**

- Published March 26, 2012
- Changes to:
  - Definition and classification of hazardous chemicals
  - Label content
  - Safety data sheet content (mandatory 16 section SDS)

## **Hazardous Chemical Definition**

- Old: "Hazardous chemical" means any chemical which is a physical hazard or a health hazard."
- New: "Hazardous chemical" means any chemical which is classified as a physical hazard or a health hazard, a simple asphyxiant, combustible dust, pyrophoric gas, or hazard not otherwise classified.

## **Health Hazard Definition**

- includes chemicals which are:
  - carcinogens,
  - toxic or highly toxic agents,
  - reproductive toxins, irritants,
  - corrosives,
  - sensitizers,
  - hepatotoxins,
  - nephrotoxins,
  - neurotoxins,
  - agents which act on the hematopoietic system, and
  - agents which damage the lungs, skin, eyes, or mucous membranes.

- Old: The term "health hazard"
   New: "health hazard" means a chemical which is classified as posing one of the following hazardous effects:
  - acute toxicity (any route of exposure);
  - skin corrosion or irritation;
  - serious eye damage or eye irritation;
  - respiratory or skin sensitization;
  - germ cell mutagenicity; carcinogenicity;
  - reproductive toxicity;
  - specific target organ toxicity (single or repeated exposure); or
  - aspiration hazard

# **Physical Hazard Definition**

- Old: a chemical for which there is scientifically valid evidence that it is a:
  - combustible liquid,
  - a compressed gas,
  - explosive,
  - flammable,
  - an organic peroxide,
  - an oxidizer,
  - pyrophoric,
  - unstable (reactive) or
  - water-reactive

- New: "physical hazard" means a chemical that is classified as posing one of the following hazardous effects:
  - explosive;
  - flammable (gases, aerosols, liquids, or solids);
  - oxidizer (liquid, solid or gas);
  - self-reactive; pyrophoric (liquid or solid);
  - self-heating;
  - organic peroxide;
  - corrosive to metal;
  - gas under pressure; or
  - in contact with water emits flammable gas.

## **Hazard Classification**

- If a company manufactures or repackages chemicals, this new hazard classification is required
- Each chemical/product must be evaluated to determine whether the chemical is classified as hazardous according to the new definition of hazardous chemical
- Classification for health and physical hazards also includes the determination of the <u>degree</u> of hazard by comparing the data with criteria for health and physical hazards published in the appendices to the standard
- Each hazard classification must be evaluated based on weight of scientific evidence
- The outcome of the hazard classification determines the signal word and hazard statements in the label and safety data sheet

# Table A.1.1: Acute Toxicity Hazard Categories and Acute Toxicity Estimate (ATE) Values

Exposure route	Category 1	Category 2	Category 3	Category 4
Oral (mg/kg bodyweight)	≤ 5	>5 and ≤ 50	>50 and ≤ 300	>300 and ≤ 2000
Dermal (mg/kg bodyweight)	≤ 5	>50 and ≤ 200	>200 and ≤ 1000	>1000 and ≤ 2000
Inhalation - Gases (ppmV)	≤ 100	>100 and ≤ 500	>500 and ≤ 2500	>2500 and ≤ 20000
Inhalation - Vapors (mg/l)	≤ 0.5	>0.5 and ≤ 2.0	>2.0 and ≤ 10.0	>10.0 and ≤ 20.0
Inhalation – Dusts and Mists (mg/l)	≤ 0.05	>0.05 and ≤ 0.5	>0.5 and ≤ 1.0	>1.0 and ≤ 5.0

# Table B.6.1: Criteria for Flammable Liquids

Category	Criteria
1	Flash point < 23°C (73.4°F) and initial boiling point ≤ 35°C (95°F)
2	Flash point < 23°C (73.4°F) and initial boiling point > 35°C (95°F)
3	Flash point ≥ 23°C (73.4°F) and ≤ 60°C (140°F)
4	Flash point > 60°C (140°F) and ≤ 93°C (199.4°F)

## **Hazard Classification**

- Some chemicals and chemical products may now be classified differently than before:
  - Some chemicals that were defined as hazardous may no longer be
  - Some chemicals that were defined as not hazardous may now be
  - Some chemicals previously defined as combustible may now be considered flammable
  - Hazard classification of mixtures must be on the mixture as a whole, rather than the individual components

# **New Labeling Requirements**

- Based on the classification, the chemical manufacturer/ importer must provide the following on each container that is shipped:
  - Product identifier
  - Signal word
  - Hazard statement(s)
  - Precautionary statement(s)
  - Pictogram(s)
  - Name, address, and telephone number for the chemical manufacturer, importer, or other responsible party

## **HCS/GHS Labeling Components**



## PAINT (METHYL FLAMMALINE, LEAD CHROMOMIUM)

## DANGER <

Causes damage to the liver and kidneys through prolonged 
or repeated exposure to the skin.

Keep away from food and drink. ◀

Wash hands thoroughly after use and before eating.

Highly flammable liquid and vapour.

Keep away from heat and ignition sources.

## FIRST AID≺

Call emergency medical care.

Wash affected area of body thoroughly with soap and fresh water.

## Pictograms

 Conveys specific information about the hazard(s) of a chemical

## Product Identifier

 Chemical name or number to identify the chemical

## Signal Word

· Alerts level of severity of hazard

## **Hazard Statement**

 Describes the nature of hazard(s) associated with a chemical

## **Precautionary Statement**

 Recommended measures to take to prevent adverse effects

## First Aid Statement

· Emergency care information

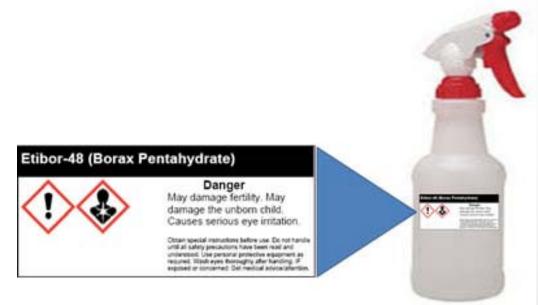
## Supplier Information

 Name, address and telephone number of the chemical manufacturer, importer or other responsible party



## **Product Identifier**

 The name or number used for a hazardous chemical on a label or in the SDS that provides a unique means by which users can identify the chemical and which permits cross-referencing between the list of hazardous chemicals, label and SDS



# **Signal Word**

 A word used to indicate the relative level of severity of hazard and alert the reader to a potential hazard on the label

"Danger" – used for the more severe hazards

"Warning" – used for the less severe

 The word to be used is specified in Appendix C based on the hazard classification

## SAMPLE LABEL PRODUCT IDENTIFIER HAZARD PICTOGRAMS CODE **Product Name** SUPPLIER IDENTIFICATION Company Name Danger Street Address City\_State HAZARD STATEMENT Highly flammable liquid and vapor. Postal Code Country May cause liver and kidney damage. Emergency Phone Number SUPPLEMENTAL INFORMATION Directions for use PRECAUTIONARY STATEMENTS Keep container tightly closed. Store in cool. well ventilated place that is locked. Keep away from heat/sparks/open flame. No Fill weight Lot Number Only use non-sparking tools. Gross weight Fill Date: Use explosion-proof electrical equipment. Take precautionary measure against static Expiration Date: Ground and bond container and receiving equipment. Do not breathe vapors. Wear Protective gloves. Do not eat, drink or smoke when using this Wash hands thoroughly after handling. Dispose of in accordance with local, regional, national, international regulations as In Case of Fire use dry chemical (BC) or Carbon dioxide (CO<sub>2</sub>) fire extinguisher to extinguish. First Aid If exposed call Poison Center. If on skin (on hair): Take off immediately any contaminated clothing. Rinse skin with water.

## **Hazard Statement**

- Hazard statement for each level of hazard within each hazard class (from Appendix C)
  - Example: Flammable liquids
    - Category 1: Extremely flammable liquid and vapor
    - Category 2: Highly flammable liquid and vapor
    - Category 3: Flammable liquid and vapor
    - Category 4: Combustible liquid

# SIGNAL WORD Danger HAZARD STATEMENT Highly flammable liquid and vapor. May cause liver and kidney damage. SUPPLEMENTAL INFORMATION Directions for use

Fill weight Lot Number

Gross weight Fill Date:

# **Precautionary Statements**

- Precautionary statements are selected from tables in Appendix C, based on the classification
- Four types of precautionary statements required:
  - Prevention
  - Response
  - Storage
  - Disposal

## PRODUCT IDENTIFIER

CODE

**Product Name** 

## SUPPLIER IDENTIFICATION

## Company Name

Street Address

City State

Postal Code Country

Emergency Phone Number

### PRECAUTIONARY STATEMENTS

Keep container tightly closed. Store in cool, well ventilated place that is locked. Keep away from heat/sparks/open flame. No smoking.

Only use non-sparking tools.

Use explosion-proof electrical equipment. Take precautionary measure against static discharge.

Ground and bond container and receiving equipment.

Do not breathe vapors.

Wear Protective gloves.

Do not eat, drink or smoke when using this product.

Wash hands thoroughly after handling. Dispose of in accordance with local, regional, national, international regulations as specified.

In Case of Fire: use dry chemical (BC) or Carbon dioxide (CO<sub>2</sub>) fire extinguisher to extinguish.

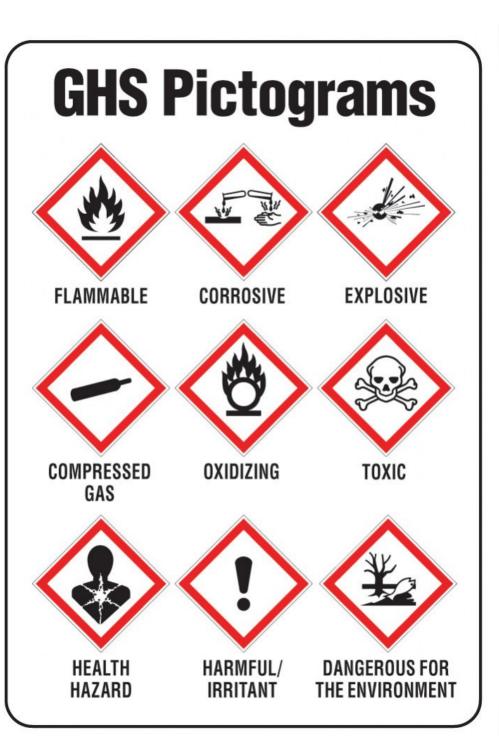
## First Aid

If exposed call Poison Center.

If on skin (on hair): Take off immediately any contaminated clothing. Rinse skin with water.

# Precautionary Statements Flammable Liquids

Prevention	Response	Storage	Disposal
Keep away from heat/ sparks/open flames/ hot surfaces. – No smoking Keep containers tightly closed. Ground/Bond container and receiving equipment. Use explosion-proof electrical/ ventilating / lighting//equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves/ eye protection/ face protection	If on skin (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/shower. In case of fire: Use for extinction.	Store in a well-ventilated place. Keep cool	Dispose of contents/container to  in accordance with local/ regional/ national/ international regulations (to be specified)



# **New Labeling Requirements**

- Based on the classification, the chemical manufacturer/importer must provide the following on each container that is shipped:
  - Product identifier
  - Signal word
  - Hazard statement(s)
  - Precautionary statement(s)
  - Pictogram(s)
  - Name, address, and telephone number for the chemical manufacturer, importer, or other responsible party

## SAMPLE LABEL PRODUCT IDENTIFIER HAZARD PICTOGRAMS CODE **Product Name** SUPPLIER IDENTIFICATION Company Name Danger Street Address City\_State HAZARD STATEMENT Highly flammable liquid and vapor. Postal Code Country May cause liver and kidney damage. SUPPLEMENTAL INFORMATION Emergency Phone Number Directions for use PRECAUTIONARY STATEMENTS Keep container tightly closed. Store in cool. well ventilated place that is locked. Keep away from heat/sparks/open flame. No smakina. Fill weight Lot Number Only use non-sparking tools. Use explosion-proof electrical equipment. Gross weight Fill Date: Take precautionary measure against static discharge. Expiration Date: Ground and bond container and receiving equipment. Do not breathe vapors. Wear Protective gloves. Do not eat, drink or smoke when using this

Wash hands thoroughly after handling. Dispose of in accordance with local, regional,

In Case of Fire use dry chemical (BC) or

If on skin (on hair): Take off immediately any contaminated clothing. Rinse skin with water.

Carbon dioxide (CO<sub>2</sub>) fire extinguisher to

national, international regulations as

If exposed call Poison Center.

specified.

extinguish.

First Aid

# Labels, cont.

- No size requirements for labels
- No exemptions for small packages
  - Use pull-out labels, fold back labels, tags or other methods
  - OSHA's "Practical accommodations"
    - The actual container holding the hazardous chemical must contain, at a minimum, the product identifier, pictogram(s), manufacturer's name and phone number, signal word, and a statement indicating the full label information for the chemical is provided on the outside package
    - The outside packaging, at a minimum, must contain:
      - All the applicable label elements.
      - Must be clearly marked to ensure the complete label elements are visible and must clearly inform users that the small container must be stored in the outer container bearing the complete label.
      - The complete label must be maintained on the outer package (e.g., not torn, defaced, destroyed).

# **Workplace Labels**

- The employer shall ensure that each container of hazardous chemicals in the workplace is labeled, tagged or marked with <u>either</u>:
  - The information specified for labels on shipped containers, or
  - Product identifier <u>and</u> "words, pictures, symbols, <u>or</u> combination thereof, which provide at least general information regarding the hazards of the chemicals, and which, in conjunction with the other information immediately available to employees under the hazard communication program, will provide employees with the specific information regarding the physical and health hazards of the hazardous chemical."
    - Example: Gasoline Flammable

# **Workplace Labels**

- Alternative labeling systems such as the National Fire Protection Association (NFPA) 704 Hazard Rating and the Hazardous Material Information System (HMIS) are permitted for workplace containers. However, the information supplied on these labels must be consistent with the revised HCS, e.g., no conflicting hazard warnings or pictograms.
- NFPA/OSHA Quick Card

http://www.nfpa.org/assets/files/aboutthecodes/704/nfpa704 hc2012\_qcard.pdf

https://www.osha.gov/Publications/OSHA3678.pdf



## Comparison of NFPA 704 and HazCom 2012 Labels

	NFPA 704	HazCom 2012	
Purpose	Provides basic information for emergency personnel responding to a fire or spill and those planning for emergency response.	Informs workers about the hazards of chemicals in workplace under normal conditions of use and foreseeable emergencies.	
Number System: NFPA Rating and OSHA's Classification System	0-4 0-least hazardous 4-most hazardous	1-4 1-most severe hazard 4-least severe hazard • The Hazard category numbers are NOT required to be on labels but are required on SDSs in Section 2. • Numbers are used to CLASSIFY hazards to determine what label information is required.	

## **OSHA on HMIS**



"Employers may continue to use rating systems such as National Fire Protection Association (NFPA) diamonds or HMIS requirements for workplace labels as long as they are consistent with the requirements of the Hazard Communication Standard and the employees have immediate access to the specific hazard information as discussed above. An employer using NFPA or HMIS labeling must, through training, ensure that its employees are fully aware of the hazards of the chemicals used."

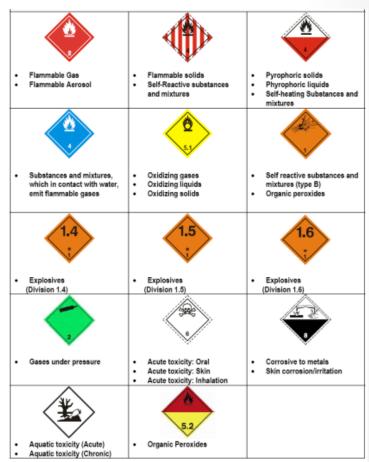
https://www.osha.gov/Publications/OSHA3636.pdf

# **Workplace Labels**

- Workplace labels or other forms of warning must be legible, in English, and prominently displayed on the container, or readily available in the work area throughout each work shift.
  - Employers having employees who speak other languages may add the information in their language to the material presented, as long as the information is presented in English as well.

# **OSHA Labels vs. DOT**





- An OSHA/HazCom label is required for the workplace
- A DOT label is required for transport

# **OSHA Labels vs. EPA Pesticides**

- Per OSHA, pesticides labeled to meet FIFRA are exempt from having to also meet OSHA labeling requirements
- Per OSHA requirements, however, SDSs are required for workplaces that use pesticides under OSHA's jurisdiction
- EPA has not adopted GHS for pesticide product classification and labeling
- EPA regards SDSs for pesticides to be labeling when they accompany the pesticide
- Conflicts between FIFRA label requirements and OSHA SDS
  - Signal words OSHA uses only danger and warning while EPA also uses caution
  - Pictogram EPA only uses skull and crossbones and flame; OSHA would use health hazard pictogram
- EPA has published a Pesticide Registration Notice (PRN 2012-1) to explain how to comply with both

http://www.epa.gov/sites/production/files/2014-04/documents/pr2012-1.pdf

# **Safety Data Sheets**

- Incorporates a standard 16 section SDS
- SDSs must be in English; they may also be kept in other languages
- An updated SDS must be provided with products shipped beginning June 1, 2015
- Companies are not required to send new SDSs to previous customers who may still have the product in inventory
- New SDSs do not have to be provided for chemicals no longer produced
- The requirements to maintain MSDSs or SDSs under 29 CFR 1910.1020 have not changed
- The conditions under which employers may maintain SDSs electronically in the workplace have not changed

# 16 Sections of SDS

- 1. Identification
- 2. Hazards identification
  - Classification (Hazard Class/Category)
  - Labeling Signal Word, Symbol, Hazard Statements, Precautionary Statements
- 3. Composition/information on ingredients
  - Substances name, CAS/other identifier, impurities, etc. that contribute to hazards
  - Mixtures name and <u>exact percentage</u> (unless a trade secret is claimed and then a concentration range may be used) of all ingredients classified as health hazards

## 16 Sections of SDS

- 4. First aid measures
- 5. Firefighting measures
- 6. Accidental release measures
- 7. Handling and storage including incompatibility
- 8. Exposure controls/personal protection
- 9. Physical and chemical properties
- 10. Stability and reactivity
- 11. Toxicological information

## 16 Sections of SDS

- 12. Ecological information
- 13. Disposal considerations
- 14. Transportation information
- 15. Regulatory information

**Note: Information in Sections 12-15 are non-mandatory** 

16. Other information including the date of SDS preparation or last revision

# **Training**

- Employees must be trained on the new label elements and safety data sheet format by December 1, 2013
  - The 2013 training thus does NOT include a requirement to re-train on all hazards
  - The training is to ensure that employees understand the new label and SDS approach
- If workplace labeling changes, workers will have to be trained on this as well – the timing will depend on when the workplace labeling is updated
- OSHA fact sheet on training requirements available at <a href="http://www.osha.gov/Publications/OSHA3642.pdf">http://www.osha.gov/Publications/OSHA3642.pdf</a>

# Written Hazard Communication Programs

- No changes to the existing component requirements
- Employers need to assure that the program is current and reflects the revised regulation
  - Will workplace labeling change?
  - Does your program include references to hazard definitions that may need to be updated?
  - Change MSDS references to SDS
  - Update the list of hazardous chemicals as needed based on revised SDSs received
    - Some chemicals previously not hazardous may now be classified as hazardous
    - Some classifications may change based on the new mixture requirements

## **HazCom 2012 Effective Dates**

- The final rule became effective May 25, 2012
- Employers were required to train employees of the new labels and SDS format by December 1, 2013
- Manufacturers, importers, distributors, and employers must comply by June 1, 2015
  - May ship products labeled under the old system until December 1, 2015
- Distributors cannot ship containers without compliant labels after December 1, 2015
- Employers must update HazCom programs, workplace labeling, and provide additional training for any new hazards identified as a result of the transition to the GHS system by June 1, 2016

## February 9, 2015 Memorandum

**Question:** I'm an employer, and have not received updated SDSs or labels for some of the hazardous chemicals I use in my business. Will OSHA issue a citation to me?

**Answer:** No. Once you receive HCS 2012-compliant SDSs, you must maintain them.

## **Useful Information**

- Side-by-Side Comparison of OSHA's previous Hazard Communication Standard vs. HazCom 2012 <a href="http://www.osha.gov/dsg/hazcom/side-by-side.html">http://www.osha.gov/dsg/hazcom/side-by-side.html</a>
- Dr. David Michaels explaining the GHS changes <a href="http://www.osha.gov/video/hazcom/index.html">http://www.osha.gov/video/hazcom/index.html</a>
- OSHA Quick Cards
   https://www.osha.gov/dsg/hazcom/ghsquickcards.html

# Thank You Questions?

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